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**OIL AND GAS DEVELOPMENTS**  
**IN**  
**PENNSYLVANIA**  
**IN**  
**1961**

by

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## OIL AND GAS DEVELOPMENTS IN PENNSYLVANIA IN 1961

By

William S. Lytle, Addison S. Cate,  
William G. McGlade, and Walter R. Wagner

### ABSTRACT

Exploration in Pennsylvania during 1961 resulted in the discovery of 4 new gas fields, 6 new gas pools, and 2 deeper gas pools. Also several fields and pools were extended.

The outstanding discovery was the Whippoorwill Field in Cameron County on the southeast flank of the Sabinsville anticline. Other important discoveries were the Pavia Field in Blair and Bedford Counties, the Spruell Field in Fayette County, the Brooky Pool in Crawford County, the Lundys Lane Pool in Erie County, and the Bailey and Clarke pools in Westmoreland County. The greatest density of deep drilling (Middle Devonian or older) occurred in Crawford County where 21 wells were drilled. Armstrong County again had the greatest number of shallow-sand completions (Upper Devonian or younger) outside of the secondary-recovery areas with the drilling of 46 wells. No new shallow-sand field or pool was discovered during the year.

During 1961 there was 679 new wells drilled and 30 wells deepened. Of the 679 current-year completions, 642 were in proven fields, and 37 were exploratory tests. Of the 642 proven field wells, 211 were oil, 182 water input, 172 gas, 8 gas input, 10 gas storage, and 59 dry holes. Of the 211 oil wells, 168 were drilled in connection with secondary-recovery operations. Of the 37 exploratory tests, 12 were gas and 25 were dry. Of the 311 completions drilled outside of underground gas storage or secondary-recovery operations, 84 were dry, a dry hole ratio of 1 in slightly over 3.7. The total footage drilled during the year was 1,722,955 feet.

Exploratory tests totaled 37, drilling a total of 224,615 feet of hole, or an average per well of 6,071 feet. Of the 37 exploratory tests, 12 were successful and 25 were dry, giving a success ratio of 1 in 3.1 or a failure ratio of 1 in 1.5.

Oil pipeline runs totaled 5,580,000 bbls., or a decrease of 6.1 percent over the 1960 figure of 5,942,000 bbls. Proven oil reserves as of December 31, 1961, were estimated at 102,448,000 bbls. Gas produced totaled 98,318,000 Mcf as compared with 119,671,000 Mcf in 1960. Gas

reserves were estimated at 1,168,855,000 Mcf at the end of the year. The total reservoir capacity for the storage of natural gas in Pennsylvania is 497,000,000 Mcf.

The total acreage held by major oil and gas companies for deep oil and gas exploration in Pennsylvania amounted to about 3,649,000 acres at the year's end. A number of geological field parties were active during 1961. Seismic crews logged 133 weeks in the state. This is an increase of about 28 percent over the seismic activity shown in 1960.

## INTRODUCTION

A summary of the oil and gas developments during 1961 is presented in this publication. The skeletal logs of the deep wells (those which reached rocks of Middle Devonian age or older) drilled during the year are shown in Table 11 and are supplementary to those published in Bulletins M 31, M 39, and M 45, and Progress Report 158 of the Fourth Series of the Pennsylvania Bureau of Topographic and Geologic Survey. Skeletal logs of the deep wells drilled prior to 1950 and other information on Pennsylvania's oil and gas activities up to that time are to be found in Bulletin M 31; similar information for the 1950 to 1954 period was published in Bulletin M 39, for the 1955 to 1959 period in Bulletin M 45, and for the year 1960 in Progress Report 158. The shallow-sand (Upper Devonian or younger) oil and gas developments are described in Progress Reports 135, 139, 143, 144, 147, 150, 151, 154, 155, 157, and 158 of the Survey.

Both shallow and deep drilling activity decreased during the year as compared with 1960. Deep drilling decreased 31 percent and shallow drilling 10 percent. Crude oil prices remained steady at a high level during the first 11 months of the year and then decreased 17 cents per barrel during December. At the year's end the Bradford District price for a barrel of crude was \$4.63.

The deep and shallow well completion summary for 1961, exclusive of those wells drilled in connection with underground gas storage and secondary-recovery oil operations, are shown in Table 1.

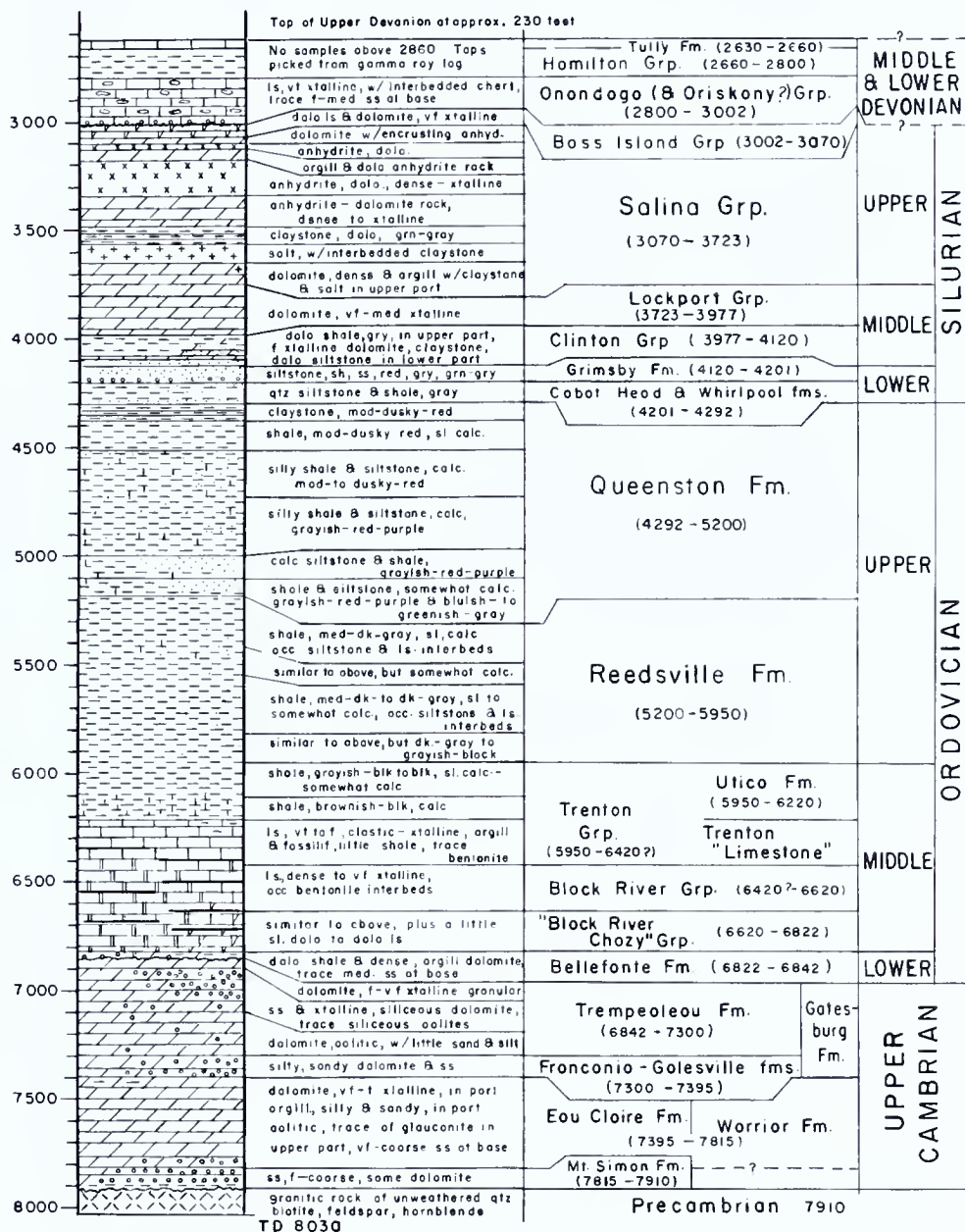
Table 2 shows the amount of crude oil and natural gas produced during the year and the oil and gas reserves as of December 31, 1961.

Listed in Table 12 are the deep wells from which drill cuttings were collected during the year. A complete list of drill cuttings on file with the Survey may be obtained from the Survey's "Catalogue of Deep Well Samples" (I. C. No. 16) as well as from the supplemental lists published in Progress Reports 157, 158, and on Table 12 of this publication.

# Pre-Upper Devonian Stratigraphy of KARDOSH No.1 Well

by M. L. Benedum & Arkansas-Louisiana Gas Co.

Summerhill Twp., Crawford Co., Pennsylvania



W. R. Wagner  
Jan. 1960



TABLE 1. Deep and Shallow Well Completions Summary,  
Pennsylvania, 1961\*

Completions	Oil	Gas	Dry	Total	Percent Successful
Exploratory tests	-	12	25	37	32
Development wells*	43	172	59	274	78
Totals	43	184	84	311	73

\*Does not include wells drilled in connection with underground gas storage or secondary-recovery oil operations.

TABLE 2. Production and Reserves, Pennsylvania, 1961

	1960	1961	Cumulative Total to 12/31/61	Reserves 12/31/61
Oil (bbls.)	5,942,000	5,580,000	1,235,972,000	102,448,000
Gas (Mcf)	119,671,000	98,318,000	7,508,738,000	1,168,855,000

### ACKNOWLEDGMENTS

The writers acknowledge the cooperation, in the preparation of this review, of Donald O. Kauss, the Bradford District Producers Association, and the Northeastern Gas and Oil Scouts. Virginia Fairall and Lillian Heeren of the Pennsylvania Bureau of Topographic and Geologic Survey did the drafting and assisted with the compiling of the data.

### DEEP-SAND EXPLORATION AND DEVELOPMENT

During 1961 deep-sand exploration in Pennsylvania resulted in the discovery of 4 new gas fields, 6 new gas pools, and 2 successful deeper pools. Deep-sand exploration also extended old fields and pools and resulted in the greatest drilling activity to date in the state in the search for Medina (Lower Silurian) oil and gas. Although there were fewer deep wells drilled in the state during the year, there were more wildcats drilled in 1961 than in 1960. The producing depth record of 8,574 feet (in Oriskany) is still held by Felmont's No. 1 Snyder in Somerset County, and the deepest well drilled is still California Company's No. 1 Bennett in Sullivan County (12,343 feet). The greatest density of deep drilling was in northwestern Pennsylvania in Crawford and Erie Counties where 32 wells were completed, finding 5 new pools and extending



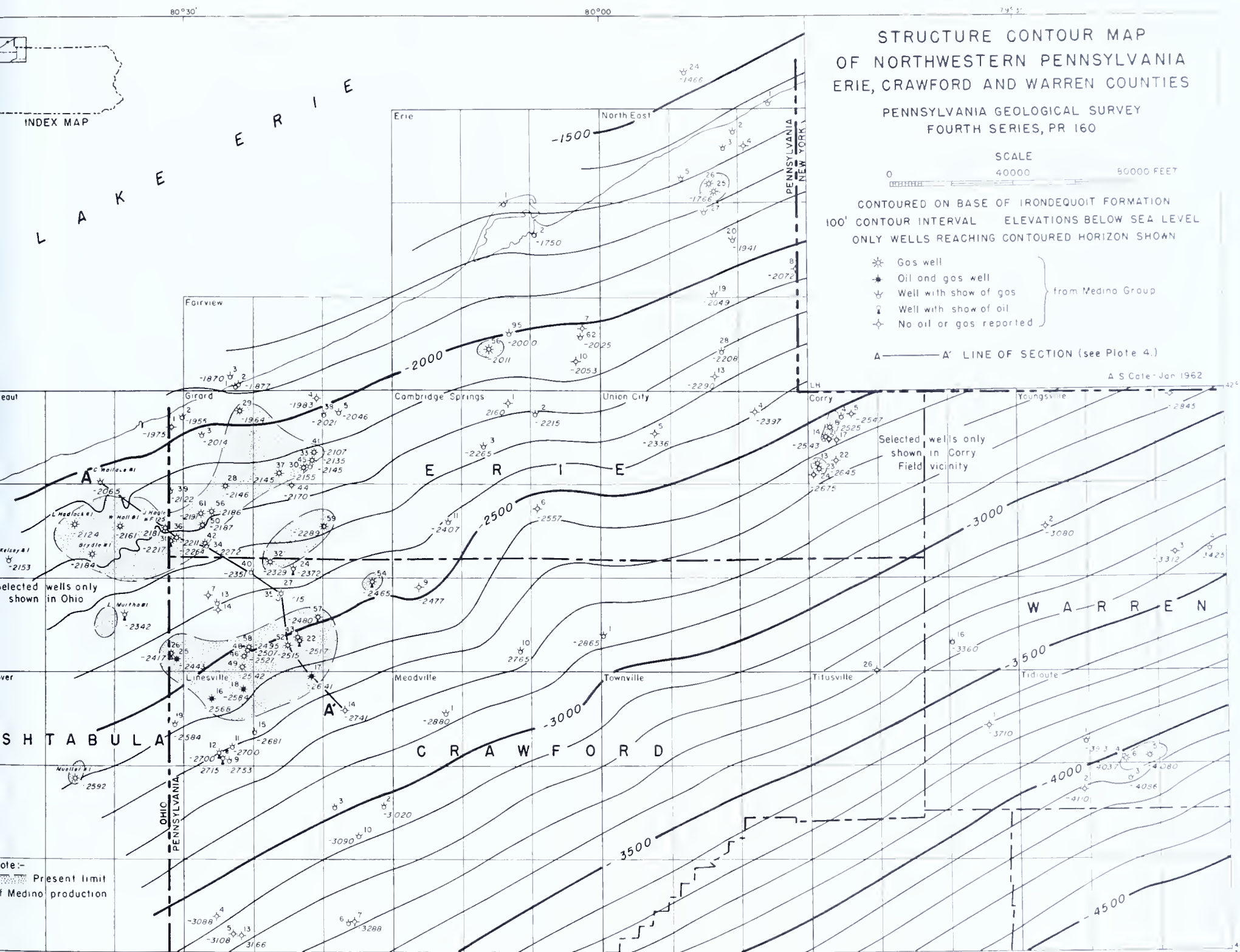
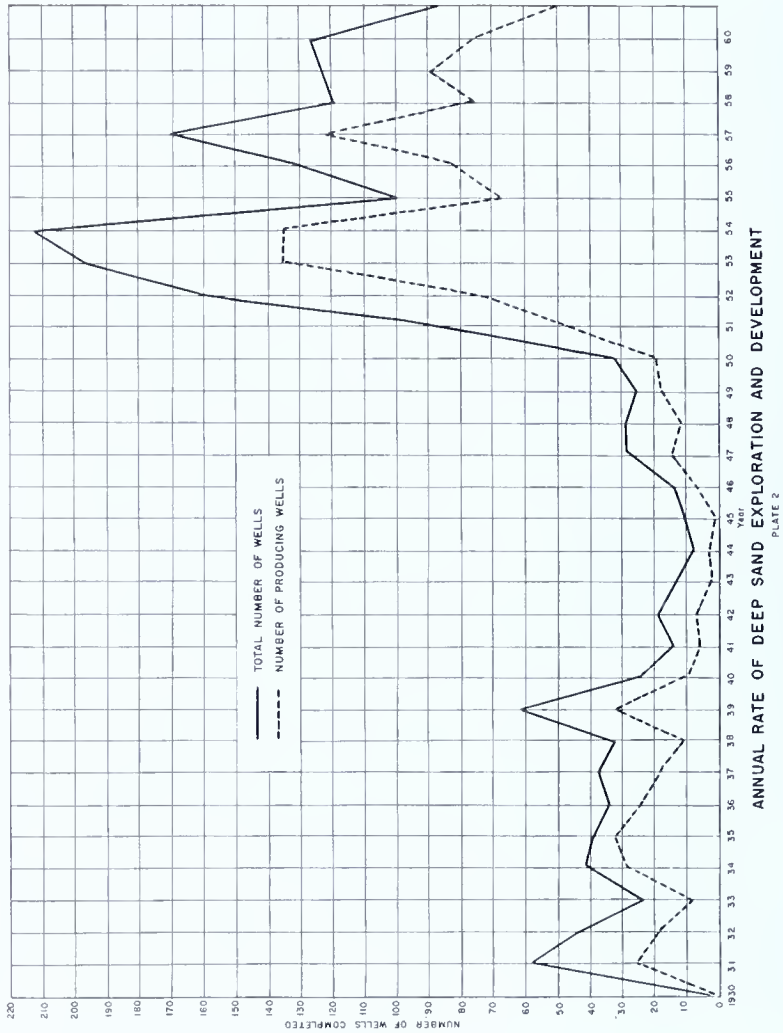


Plate 3.



ANNUAL RATE OF DEEP SAND EXPLORATION AND DEVELOPMENT

PLATE 2

the Indian Spring Field to the northeast and southwest.

The skeletal logs of the deep wells completed during the year are given in Table 11, and the locations of these deep wells are shown on Plate 8. Plate 1 shows the pre-Upper Devonian stratigraphy of the Kardosh No. 1 well, the only well drilled to the Precambrian in Pennsylvania. By the end of 1961 a total of 2,202 deep wells had been drilled in the state. Of the 2,202 deep wells drilled to date, 1253 were gas wells, 6 were oil and gas wells, 872 were dry holes, 70 were drilled for gas storage, and 1 is to be used as a disposal well for waste pickle liquor.

There were 82 wells drilled during the year to the Oriskany Formation or deeper, of which 48 were gas wells, 33 had shows or were dry holes, and one was drilled for gas storage. Three wells were completed in the Onondaga Chert (Middle Devonian), of which one was dry, one had a show of gas, and the third discovered a new gas pool. Two other wells were completed as dry holes above the Onondaga Limestone. Of the 87 deep wells completed during the year, 50 wells were fractured and 40 of these were completed as gas wells. Before fracturing, the total open-flow capacities amounted to 23,750 Mcf of gas per day, compared with 114,408 Mcf of gas per day after fracturing. Nine gas wells were not fractured, and their total initial open-flow capacities amounted to 33,809 Mcf of gas daily. The largest initial open-flow potential was 18,762 Mcf of gas daily after fracturing from a Cameron County well, A. Pardee Estate No. 5. The deep-well total footage amounted to 519,861 feet. Rotary tools completed 76 deep wells during the year, most of them with air rotary, while 11 were completed with cable tools.

During 1961 there were 87 deep wells completed as compared with 126 in 1960. The Indian Spring Field had the greatest number of completions with 5 producers in the Brooky Pool and 7 producers in the Indian Spring Pool. The Whippoorwill Field in Cameron County, a new discovery in 1961, had 5 completions, of which 3 were gas wells, and 2 had shows of gas and were abandoned.

The deep-well completions for Pennsylvania during 1961 are summarized in Table 3.

TABLE 3. Summary of Deep Well Completions, Pennsylvania, 1961

	Development		Wildcat		Storage	Total
Gas	37		12			49
Dry		12		25	1	38
Footage	206,645	82,438	71,300	153,315	6,163	519,861

The annual rage of deep-sand exploration and development since the discovery of the Tioga Field in 1930, the first deep-sand gas field to be discovered in Pennsylvania, is shown in Plate 2. The 1961 discoveries are listed in Table 4 and the more important dry exploratory tests in Table 5. Information on the deep-sand gas pools and fields, including production statistics is recorded in Table 6.

### Exploration for and Exploitation of Gas in Medinan Rocks

During 1961 there were 34 wells drilled in the State with the intent of testing the Medina section; the remainder of the 87 "deep" wells drilled during the year were intended to test Onondaga-Oriskany potentials. The considerable effort expended by the industry to increase Medina gas reserves and production was concentrated in the northwestern part of the State - there were 21 wells drilled in Crawford County, 11 in Erie County, 2 in Warren County, and 1 in Mercer County (Plate 3 covers an area which includes all but one of the wells drilled in 1961 to the Medina).

The search in northwestern Pennsylvania during 1961 for gas in the Medina was stimulated by two factors. The first was the tapering off of development drilling to the west in Ashtabula County, Ohio, (where activity had commenced in 1958) and the subsequent migration of activity eastward; the second was the construction of pipelines providing an outlet for gas produced in the northwestern counties.

Exploration and exploitation in the area is proceeding at an undiminished rate as this is being written in early 1962.

### Structure

Plate 3 shows the homoclinal structural situation at an horizon just above the Medina section; the contoured horizon is the base of the Irondequoit Formation in the Clinton Group. No structural closures or faults are evident, nor are there any but small scale flexures present - these plunging in a southeasterly direction. It is not possible to demonstrate that the present-day structural position of Medina sands is responsible for accumulations which have been found.

### Stratigraphy

Plate 4 is a diagram of a stratigraphic section which is representative of the area in which most of Pennsylvania's Medina gas is produced.

The Medina Group is a sequence of fine to coarse detrital material. Many people who are familiar with the stratigraphy of the region think of the Group as being divided into three formations. These three



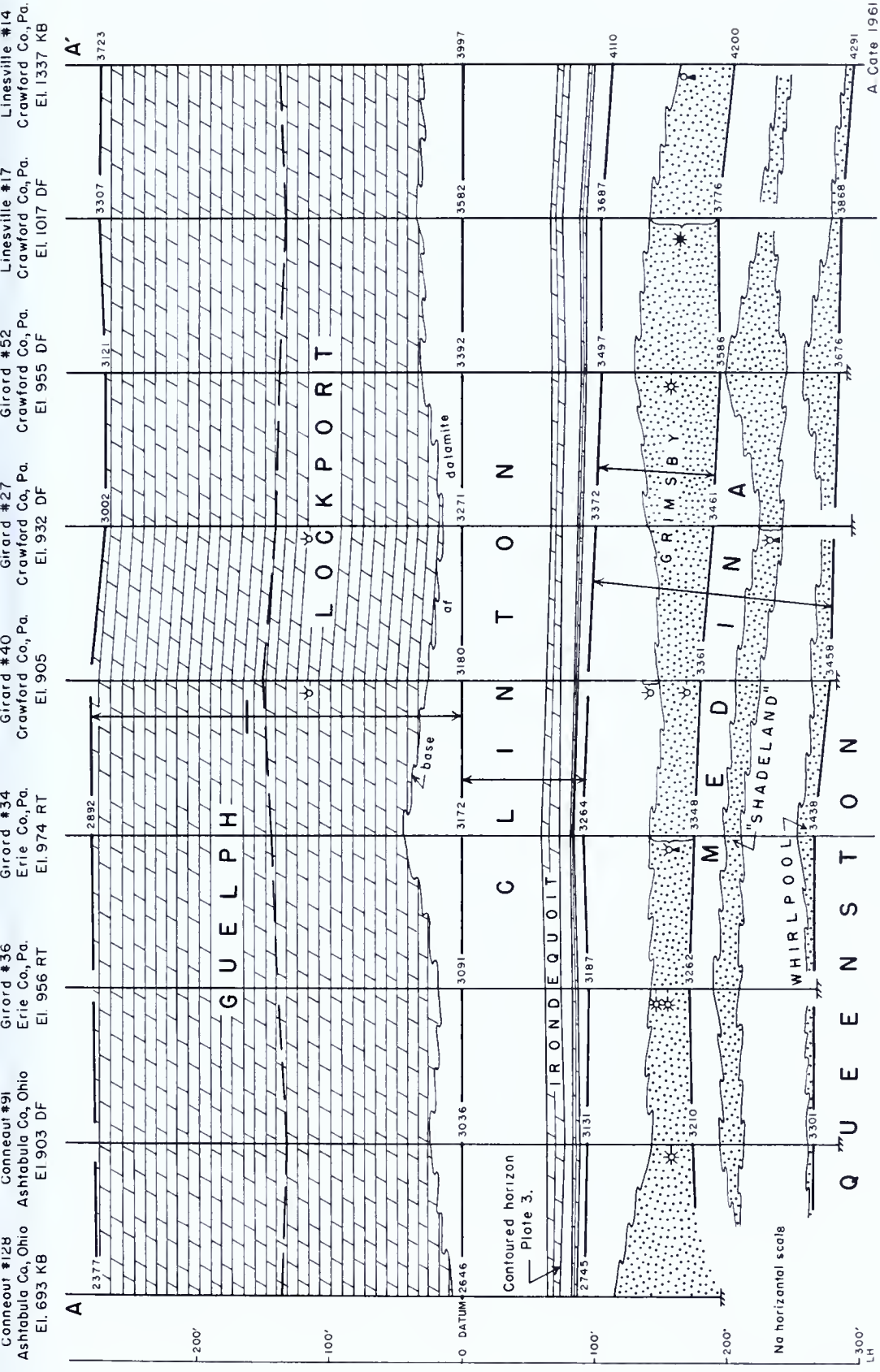


Plate 4. — STRATIGRAPHIC CROSS SECTION OF NIAGARAN — MEDINAN ROCKS  
(See Plate 3 for location)

divisions are, from bottom to top: the Whirlpool Sandstone, the Cabot Head (or Power Glen) Formation, and the Grimsby Formation. The Whirlpool was productive of some gas in the Corry Field (now depleted) in eastern Erie County (Corry Quadrangle, section A), but nowhere else in Pennsylvania has it yielded gas in commercial quantities. Within what is probably the Cabot Head (or Power Glen) Formation is a sandy zone, somewhat erratically developed, which is here referred to informally, and for the first time, as the "Shadeland" Sandstone. This sandstone zone is productive of gas in only one well in Pennsylvania (Girard No. 42 on Plate 3), but shows of gas have been found in numerous wells in the north-western part of the State.

By far the greatest amount of gas produced from the Medina Group comes from the Grimsby Formation. Zones with porosity and permeability sufficiently great to yield any gas that is entrapped range throughout the Grimsby. Of such a lenticular nature are the porous and permeable sandy zones in the Grimsby that it is impossible to identify a single productive zone from well to well. The base of the formation, however, does appear to be marked in this region by an abrupt change from coarse clastics at the base to much finer sediments in the underlying Cabot Head.

Changes in the color of the rocks in the Medina range from red and pink through green and gray to white. The boundaries at which the color changes occur are not reliable regional correlation markers but may be used in very localized areas.

The up-dip entrapment of gas (and minor amounts of oil) is apparently related to the lenticular nature of the Medina sands. Studies of sand-shale ratios, changes in bed thicknesses, cementation, etc., may yield clues to the probable environment of deposition which will make attractive and feasible the extension of the search for Medina gas production beyond its present boundaries.

Plate 5 is a map of the state showing the locations of all the wells reaching or penetrating the Lower Silurian Medina Group. Data on these wells are given in Table 7.

### Developments in the Deep Gas Fields

(Those wells mentioned in the following synopsis which are located in Erie, Crawford, and Warren Counties can be found on Plate 3 as well as Plate 8. In Table 11 the corresponding "map number" (for Plate 8) and "quadrangle number" (for Plate 3) can be compared for any specific well).

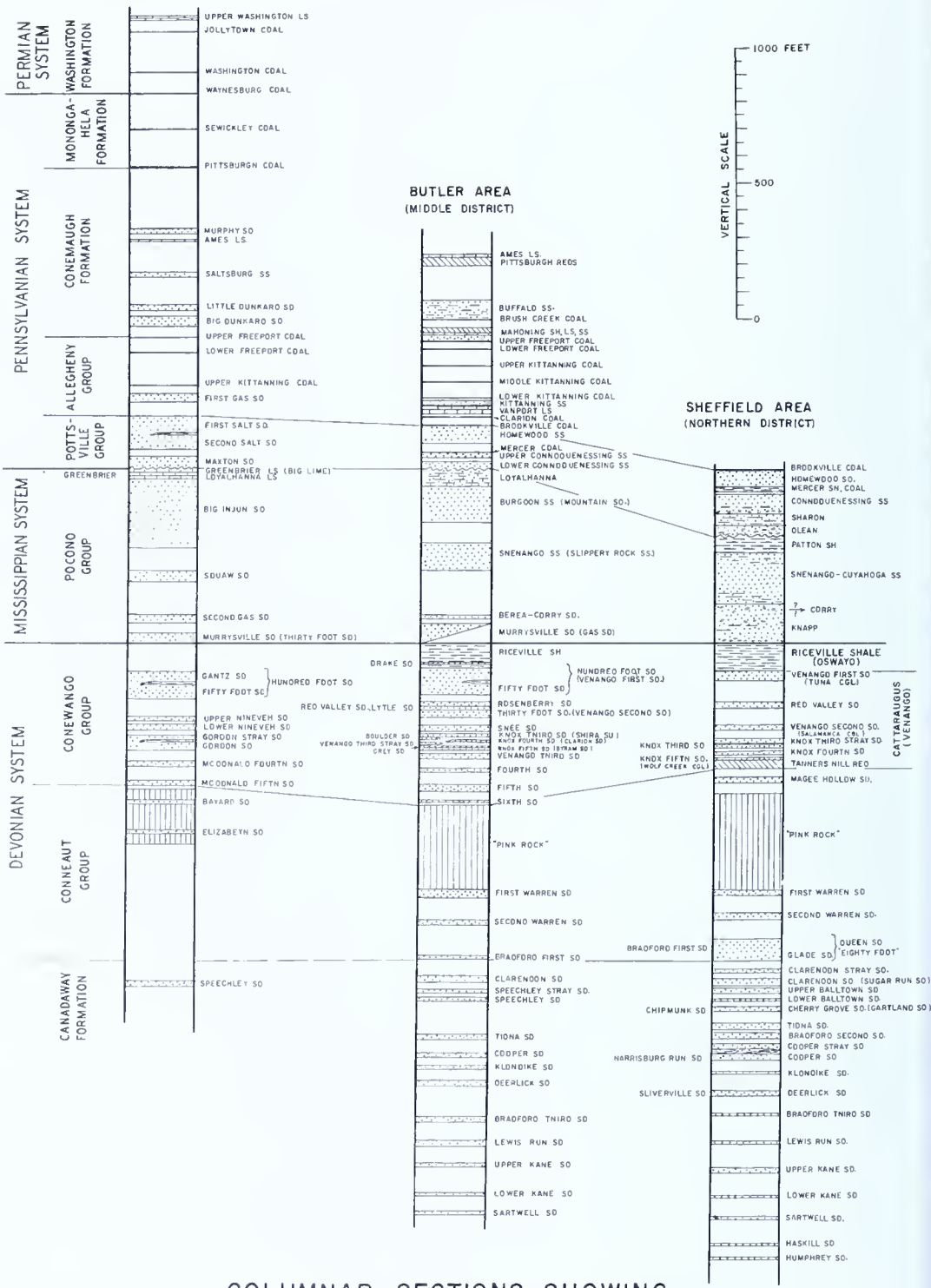
Erie County had 10 completions during the year. A new pool was

discovered by Pennsylvania Gas Company's Earl C. Miller No. 1 well (No. 52, Plate 8 and Table 11) in Elk Creek Township. Discovering the Lundys Lane Pool, the well produced 3,000 Mcf of gas (natural) from the Medina (Lower Silurian) at a depth of 3,418 feet and a rock pressure of 1050 psi in 24 hours. This well was completed in November, and by the end of the year no additional locations had been made. The Tracy Pool (Medina production) had 3 development wells completed within its borders. All three were gas wells with the best one producing 3,000 Mcf after fracturing at a rock pressure of 1050 psi in 24 hours. This was the Ros-siter No. 1 by Pennsylvania Gas Company (No. 54, Plate 8 and Table 11) in Girard Township. The Lexington Pool had one completion which had a show of gas in the Lockport (Middle Silurian); the well was abandoned. The Burgess Field (Medina production) in North East Township had a small successful outpost. After fracturing the well twice, it made 50 Mcf of gas at a rock pressure of 670 psi in 41 hours. The well has been shut in. A second well in the field, the Esterline by Vandenburg (No. 55, Plate 8 and Table 11), produced 300 Mcf with a rock pressure of 830 psi in 16 hours after fracturing the Medina. Four unsuccessful new field wildcats were drilled in Erie County during the year, all 4 wells reaching the Queenston. Apache Oil Company drilled 3 of the wells in Amity, Venango, and Waterford Townships. All 3 had show of gas and saltwater in the Medina and were abandoned. The fourth wildcat was drilled by Redfern and Hurd (No. 49, Plate 8 and Table 11) in Washington Township. The well is shut in with a show of gas in the Medina.

Crawford County had 21 completions during the year which made it the most active county in the state. An extension to the Indian Spring Trend discovered the Brooky Pool. This well, Brooky No. 1 (No. 34, Plate 8 and Table 11) by J. S. McCluskey et al, found 6,000 Mcf of gas at a rock pressure of 1125 psi in 2 days after fracturing the Medina. Four additional successful gas wells were drilled in this pool during the year. One well, the Fred Post, Jr. No. 1 by Benedum Trees Oil Co., had an initial open-flow of 3,500 Mcf after fracturing and a rock pressure of 1150 psi. Two of the wells found some oil with the gas. The Indian Spring Pool had 7 gas producers completed. The one with the highest initial open-flow was the N. Sims No. 1 well (No. 41, Plate 8 and Table 11) by Burnham Gas Company which was gauged at 9,184 Mcf of gas (natural) at a rock pressure of 1140 psi. Another 3 successful new pool wildcats were completed. They are Nos. 35, 46, and 48 on Plate 8 and Table 11. All three of the wells have been shut in. One unsuccessful new field wildcat, the Halfact No. 1 by Albaugh et al (No. 32, Plate 8 and Table 11) in Rome Township, reached the Queenston, was dry, and was abandoned. There were 5 unsuccessful new pool wildcats completed (Nos. 28, 29, 30, 31, and 47, Plate 8 and Table 11). They all reached the Queenston except one which was fractured in the Oriskany Sandstone resulting in saltwater production.



MCDONALD AREA  
(SOUTHWESTERN DISTRICT)



COLUMNAR SECTIONS SHOWING  
STRATIGRAPHIC POSITIONS OF OIL AND GAS SANDS  
OF WESTERN PENNSYLVANIA

JOHN M BERGSTEN, 1960

A wildcat in West Salem Township, Mercer County, the T. Lihan by Bert Fields, had a show of gas in the Lockport but was abandoned after reaching the Queenston (Upper Ordovician).

A wildcat in Warren County discovered the Camp Run Field in Limestone Township. This was the Wheeler-Dusenberry by Paul Benedum (No. 80, Plate 8 and Table 11). After reaching the Queenston the well was fractured in the Medina. Production amounted to 250 Mcf at a rock pressure of 960 psi in 3 hours. A second well in the same field, F. Kapp No. 2, was completed by Biery et al at an open-flow of 170 Mcf of gas from the Medina.

The Mallory Pool in McKean County had its second completion with the Mallory No. 2 (No. 71, Plate 8 and Table 11) by Ritzos and McBride, producing 3,000 Mcf of gas (after shooting) with a rock pressure of 1866 psi in 47 hours.

Felmont Oil Corporation drilled an interesting wildcat, Pa. Tract 88 No. 1, on the southeast flank of the Marshlands anticline in Potter County, Abbott Township. The well was abandoned after finding the Oriskany Sandstone dry. United Natural Gas Company drilled an Oriskany storage well in the East Fork-Wharton gas storage field.

In Tioga County on the northwest flank of the Sabinsville anticline, New York State Natural Gas Corporation drilled a wildcat to the Helderberg Limestone (Lower Devonian). After finding the Oriskany dry, the well was abandoned.

Two wildcats in Lycoming County (Nos. 69 and 70, Plate 8 and Table 11) were abandoned after finding the Oriskany Sandstone dry. Well number 69 was drilled on the northwest flank of the State Run anticline in Brown Township. Well number 70 was drilled on the northwest flank of the Cogan House anticline in Pine Township.

A wildcat in Clinton County by Felmont Oil Corporation was drilled on the northwest flank of the Hyner anticline and was abandoned after finding the Oriskany dry.

Cameron County had 5 completions, 3 gas wells and 2 with shows of gas. The entire drilling took place in the Whippoorwill Field on the southeast flank of the Sabinsville anticline. The field was discovered by A. Pardee Estate No. 3 (No. 8, Plate 8 and Table 11) by New York State Natural Gas Corporation and G. L. Cabot. Gas production was from the Oriskany Sandstone at a depth of 6,774 to 6,803 feet.

After fracturing, the well produced 6,039 Mcf of gas at a rock pressure of 3,802 psi in 18 hours. The 2 other producers had high initial

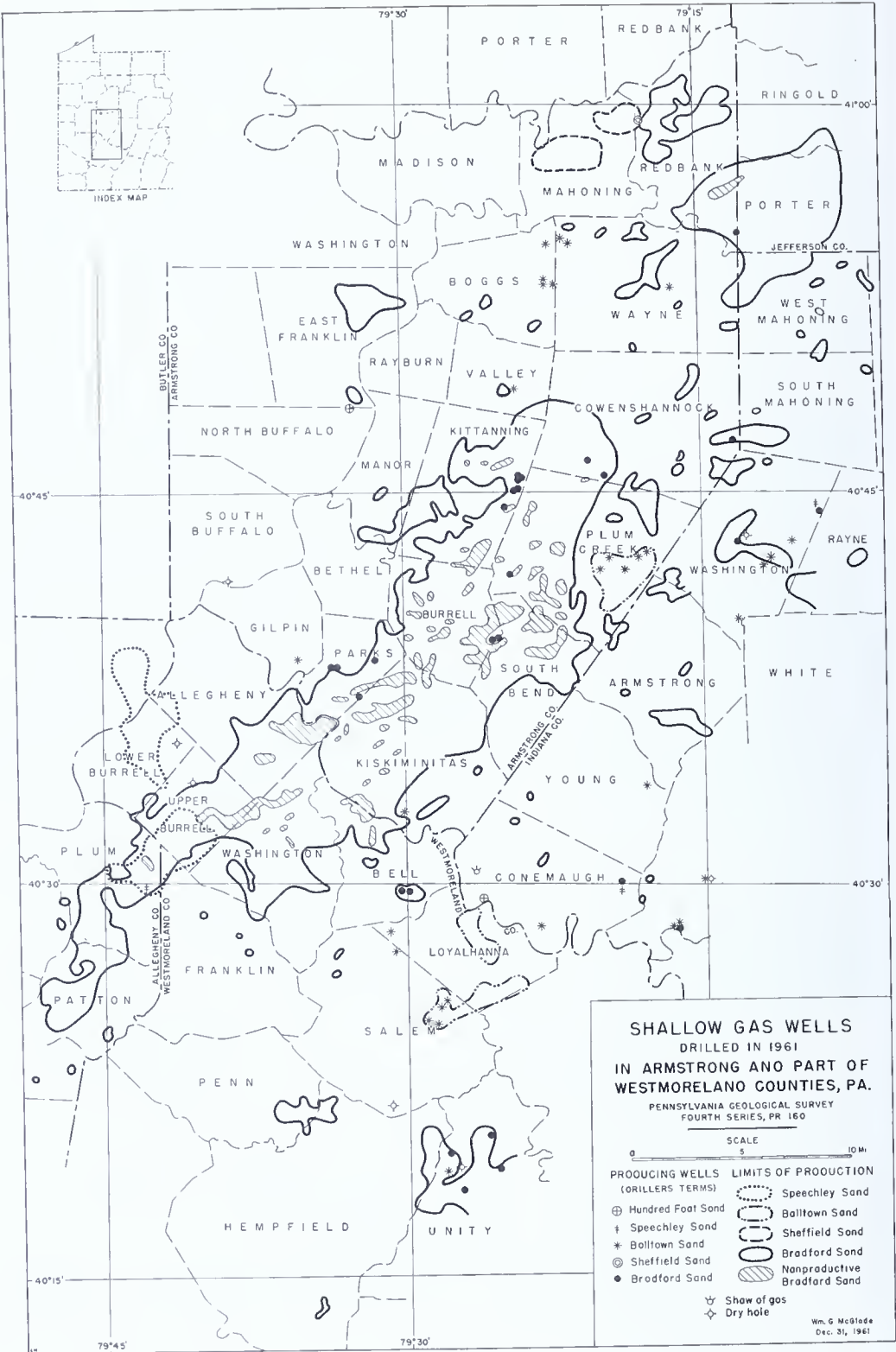
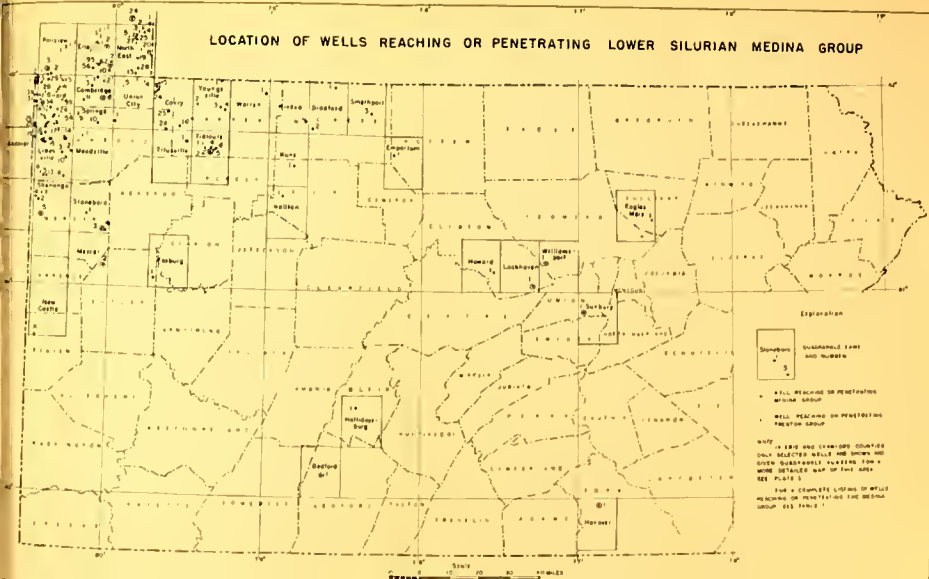


Plate 7

# LOCATION OF WELLS REACHING OR PENETRATING LOWER SILURIAN MEDINA GROUP



open-flows. The A. Pardee Estate No. 5 had an initial open-flow after fracture of 18,762 Mcf of gas.

Development drilling continued in Clearfield County during the year in the DuBois and Helvetia pools. The DuBois Pool had 2 successful outpost completions and 2 successful development wells. The J. Jusnukis No. 1 by Devonian Gas and Oil Company and New York State Natural Gas Corporation had the highest initial open-flow of the 4 wells with 7,020 Mcf of gas and a rock pressure of 2,640 psi in 48 hours, from the Oriskany Sandstone. The Helvetia Pool had 7 completions with 5 producing wells and 2 dry holes. A joint operation by New York State Natural Gas Corporation and Lee Minter in the Helvetia Pool completed an Oriskany producer for 5,876 Mcf of gas after fracturing, with a rock pressure of 2,069 psi in 66 hours. The Benezette and Rockton pools each had a dry hole drilled within their boundaries. Two unsuccessful new field wildcats were drilled in the county. New York State Natural Gas Corporation and Delta Drilling Company drilled a dry hole (No. 12, Plate 8 and Table 11) to the Helderberg in Girard Township near the axis of the Clearfield syncline. The second wildcat (No. 22, Plate 8 and Table 11) was drilled near the axis of the Laurel Hill anticline in Bigler Township by New York State Natural Gas Corporation. The well produced 6 Mcf of gas at a rock pressure of 3,200 psi in 40 days after fracturing. After testing, the well was abandoned.

Two unsuccessful outposts were drilled in Jefferson County, both by New York State Natural Gas Corporation. The Helen G. Rhines, a Boone Mountain Pool outpost, was abandoned after finding a show of gas and saltwater in the Oriskany. The Burt Walls, an outpost of the DuBois Pool, was abandoned after finding saltwater in the Oriskany.

A wildcat in Indiana County by Delta Drilling Company was drilled on the Chestnut Ridge anticline in Cherry Hill Township. The well J. H. Ralston No. 1D (No. 66, Plate 8 and Table 11) was dry in the Oriskany but was productive in an Upper Devonian sand.

When a wildcat on the Laurel Hill anticline in Cambria County (No. 6, Plate 8 and Table 11) did not find the Tully (Middle Devonian) at 8,455 feet, the well was abandoned by its operator, C. S. Grabiak. No shows were encountered in this well.

The three completions in Westmoreland County discovered a new pool, a deeper pool, and extended the new pool. Peoples Natural Gas Company discovered the new pool on the Laurel Hill anticline when their B. G. Clarke No. 1 (No. 85, Plate 8 and Table 11) found 6,500 Mcf of gas at a rock pressure of 3,309 psi in 96 hours after fracturing the Onondaga Chert which was topped at 8,335 feet. A few months later, Phillips Petroleum Company completed the second well in this pool extending it to



the northeast. The second discovery was made by Peoples Natural Gas Company and Snee & Eberly with their Bailey No. 1 (No. 84, Plate 8 and Table 11) wildcat on the Fayette anticline in South Huntington Township. The well produced 2,700 Mcf of gas at a 4-day rock pressure of 3,950 psi after fracturing the Onondaga Chert-Oriskany Sandstone interval.

Allegheny County had one completion which was the third deep well ever drilled and the first since 1938. Albert Starr drilled the well, Houston-Starr No. 1, which was abandoned without fracturing the gas show in the Oriskany Sandstone.

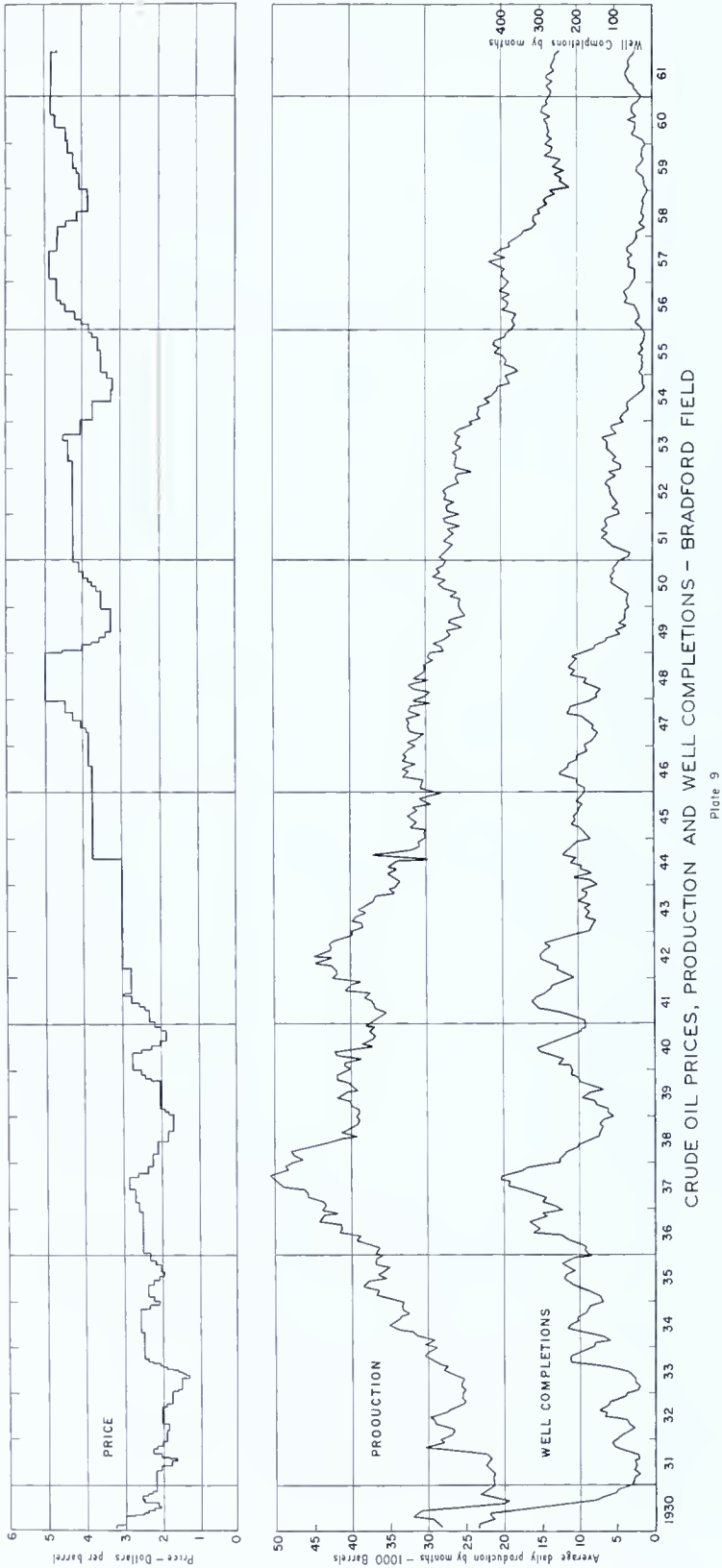
Washington County had 3 wildcats completed within its borders, all of which reached the Salina (Upper Silurian). Two of the wildcats were abandoned but the third wildcat by John T. Galey in Amwell Township on the Sam V. Cooper farm (No. 82, Plate 8 and Table 11) discovered the Glyde Pool. The well found 1,000 Mcf at a rock pressure of 1,000 Mcf at a rock pressure of 1,929 psi in 3 days after fracturing. Gas is being obtained from the Onondaga-Keyser interval and from an Upper Devonian horizon.

A Green County wildcat on the Bellevernon anticline, drilled by J. A. Fox et al on the G. W. Gordon farm was dry in the Onondaga-Keyser interval. The well was plugged back and completed as a shallow gas well in an Upper Devonian productive zone.

There were 5 completions in Fayette County during the year. Two wells were completed in the Ohiopyle Field, which had a total of 6 producing wells at the year's end. An East Summit Pool outpost well was abandoned after finding a show of gas in the Onondaga Chert and Oriskany Sandstone section. A second well in the Bailey Pool had some gas, and the operators were trying to make this a commercial well at the close of the year. The fifth well in the county, M. Spruell No. 1 (No. 64, Plate 8 and Table 11) on the Chestnut Ridge anticline by Peoples Natural Gas Company and Snee & Eberly, discovered the Spruell Field. Gas was found in the Onondaga Chert-Oriskany Sandstone interval, and production amounted to 3,110 Mcf of gas with a ten-day rock pressure of 3,423 psi after fracturing.

Three producing gas wells were drilled in Somerset County. The Williams Pool had two of these completed within its boundaries. The third was drilled in the Ohiopyle Field finding production in the Onondaga Chert.

A Blair County wildcat, Pa. Tract 26A No. 1 well (No. 4, Plate 8 and Table 11) by Phillips Petroleum Company in Greenfield Township, discovered the Pavia Field. Production from the Onondaga Chert-Oriskany Sandstone section amounted to 1,141 Mcf of gas with a 60-hour rock





pressure of 3, 185 psi after fracturing. A second well in this field by Phillips Petroleum Company found a show of gas after fracturing the section and the well was abandoned.

The Purcell and Pavia fields, in Bedford County, each had a development well completed within their boundaries. Both wells produced gas from the Oriskany Sandstone. Neither field has been connected to a gas transmission line as yet.

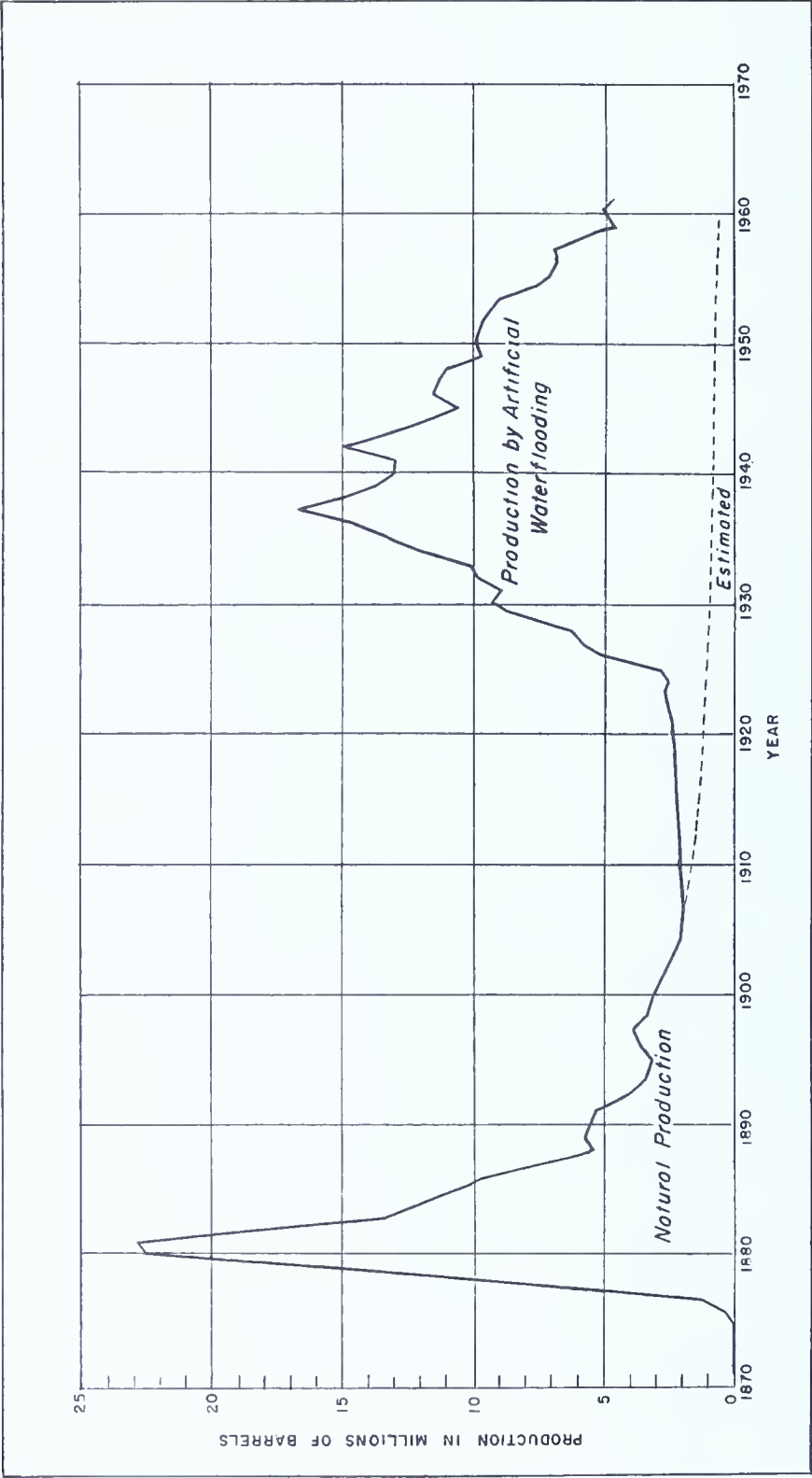
York County had its first deep well completion during 1961. Donelson Company drilled the Harry Leib No. 1 (No. 87, Plate 8 and Table 11) well in Dover Township. The well penetrated over 7,000 feet of Triassic sediments and reached the Chickies Quartzite (Lower Cambrian) before being plugged and abandoned at 8,630 feet.

### SHALLOW-SAND EXPLORATION AND DEVELOPMENT

Shallow-sand (Upper Devonian or younger) drilling in Pennsylvania in 1961 showed a decrease over that of 1960. In all, 622 shallow-sand wells were completed, as compared with 745 in 1960. Of these, 135 were gas wells, 43 were oil wells, 47 were dry holes, and 9 were drilled for underground storage of natural gas. Outside of the secondary-recovery areas, 30 wells were deepened. There were 358 wells drilled in connection with secondary-recovery oil operations. The total footage for the new and deepened wells was 1,203,094 feet.

Table 8 shows the shallow-sand well completions in western Pennsylvania exclusive of those drilled for underground gas storage or secondary-recovery oil operations. Table 9 shows the results of deepening 30 shallow-sand wells in 1961. The stratigraphic positions of the Upper Devonian or younger oil and gas sands of western Pennsylvania, from the southwest to northeast along the trend of the producing belt shown in Plate 8, are illustrated in the 3 columnar sections appearing in Plate 6.

The total initial open-flow capacity of the 135 new gas wells amounted to 67,357 Mcf per day as compared with 100,694 Mcf per day for the 175 gas wells completed in 1960. The figures used for both years are those obtained after fracturing where that method of well completion was employed. Out of the 135 new gas wells, 89 were stimulated by fracturing; the combined initial open-flow capacities of the 89 gas wells was 65,707 Mcf per day after fracturing, as compared with 2,981 Mcf per day before fracturing. Of the 21 gas wells deepened, 15 were fractured. The combined initial open-flow capacity of these 15 wells was 8,797 Mcf per day after fracturing, as compared with 465 Mcf per day before fracturing. The 43 new oil wells completed in 1961 showed an average initial production of over 3.14 per day, as compared with the average initial production of 3.64 bbls. per day of the 24 oil wells drilled in 1960.



CRUDE OIL PRODUCTION CURVE OF THE BRADFORD DISTRICT, PA. & N.Y.  
( Music Mt. field excluded )  
Figure 1

### Shallow-Sand Gas Developments

The Speechley, Balltown, and Bradford Third sands continued to be the primary targets for gas production in the shallow-sand gas fields as in the previous 5 years. Plate 7 shows the locations of the shallow gas wells drilled in 1961 in Armstrong and part of Westmoreland Counties in Pennsylvania. Armstrong again had the greatest activity in the shallow-sand gas belt. Forty-three new gas wells were completed in this county, of which 35 were fractured. Fracturing raised the combined initial open-flow capacities of the 35 new gas wells from 1,273 Mcf per day to 19,362 Mcf per day. Clarion County had 24 new gas wells during the year, Westmoreland County 24, and Indiana County 19. In the Donegal Storage Field in Washington County, 9 new gas storage wells were drilled by rotary. No new shallow-sand gas fields or pools were discovered in the state during the year.

### Shallow-Sand Oil Developments

Forty-three oil wells were drilled in 11 counties during the year outside of the secondary-recovery projects. Fifteen new oil wells were drilled in Venango County averaging 1.25 bbls. per day. Warren County was second with 7 new oil wells averaging 7.5 bbls. per day while Forest County followed with 6 new oil wells.

The state's oil production averaged 15,302 bbls. per day as compared with 16,236 bbls. per day for 1960. Crude oil prices remained the same during the year until the middle of December when they were cut 17 cents. See Table 10 which shows the price of crude oil during the year in the 3 marketing districts in Pennsylvania.

TABLE 10. Price per Barrel of Crude Oil, 1961

Date	Northern or Bradford District	Middle or Venango District	Southwestern District
January 1, 1961	\$4.80	\$4.52	\$4.25
December 13, 1961	4.63	4.35	4.08

The Bradford Field includes the Bradford, Guffy, and Burning Well pools. Statistics for this field show that 642 new wells were drilled in 1961 in connection with secondary-recovery oil operations, as compared with 585 in 1960, an increase of about 10 percent. One hundred ninety-two wells were fractured. The daily average production for the field decreased from 13,913 bbls. in 1960 to 13,267 bbls. in 1961. In the Pennsylvania part of the field (14 percent is in New York State) 350 new wells were completed, of which 143 were fractured. Production amounted

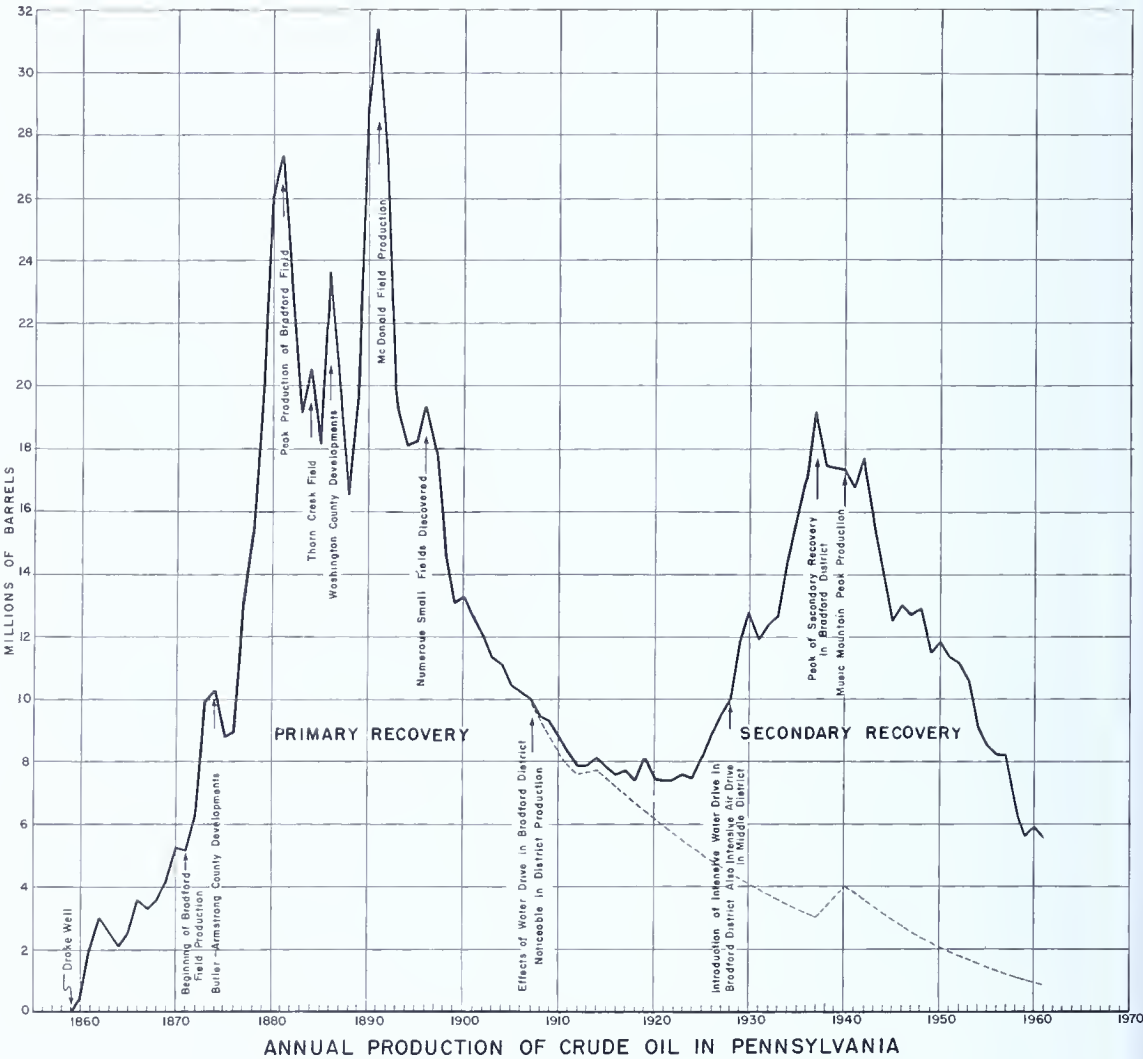


Figure 2

to 11,664 bbls. daily of crude oil, an amount which represents 76 percent of the total production of the state in 1961. Plate 9 shows the crude oil prices, production and well completions in the Bradford Field. The annual crude oil production of the Bradford District is shown in Figure 1.

The average daily oil production of the Middle and Southwestern Districts of Pennsylvania was 3,638 bbls. in 1961 as compared with 3,922 bbls. in 1960, a decline of about 7 percent. The annual production of crude oil in Pennsylvania since 1859 is shown on Figure 2. Figure 3 shows the annual gas production in the state since 1882. No new shallow-sand oil fields or pools were discovered in Pennsylvania during the year.

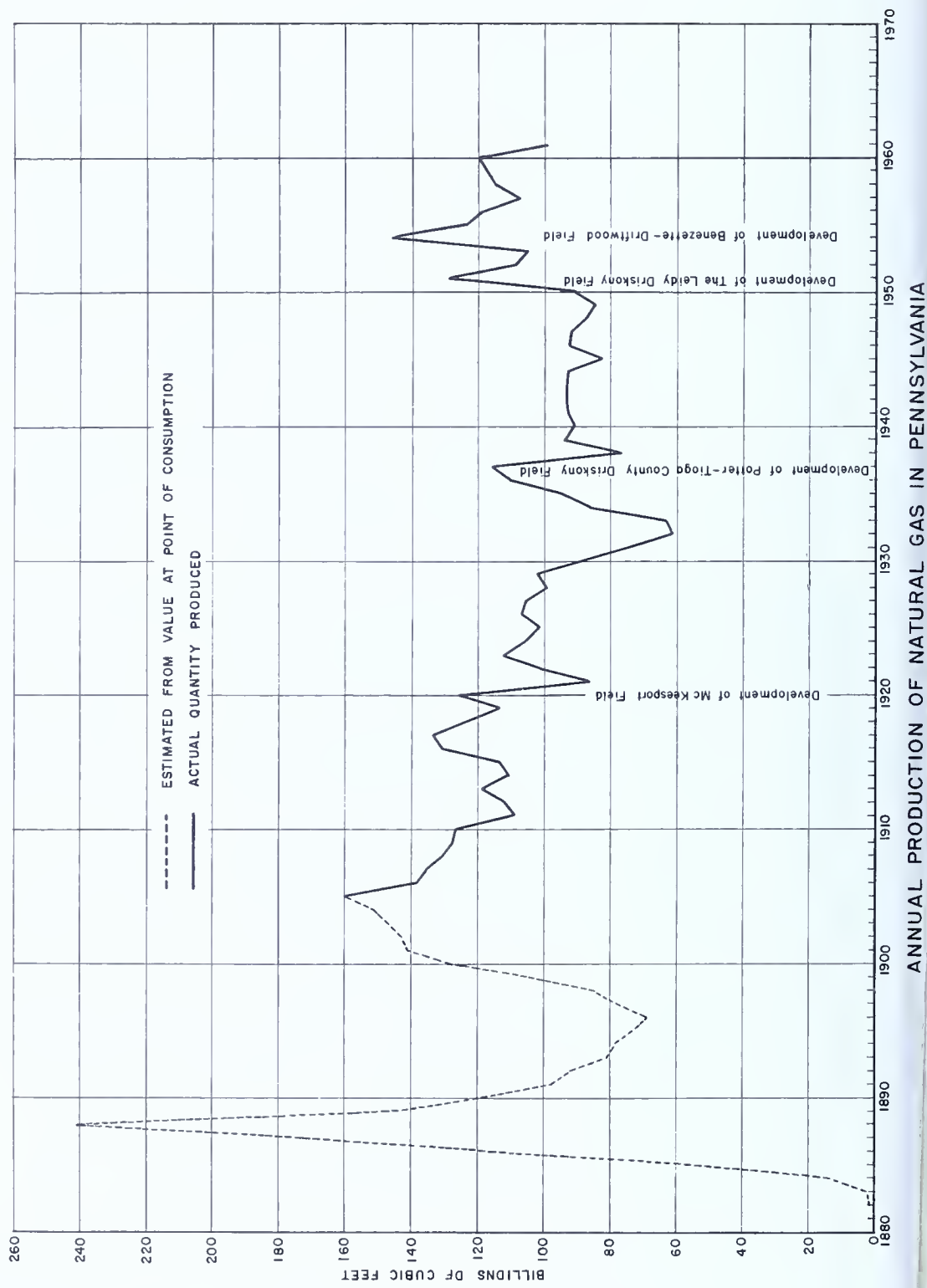
### SUMMARY

Production in the oil and gas fields of Pennsylvania amounted to 5,580,000 bbls. of crude oil during the year and 98,318,000 Mcf of gas. The proved recoverable reserves on December 31, 1961, were 102,448,000 bbls. of crude oil and 1,168,855,000 Mcf of gas. The total reservoir capacity for storage of natural gas in Pennsylvania is 497,000,000 Mcf.

Pennsylvania's Oil and Gas Conservation Law was passed by the 1961 Legislature and became effective September 24, 1961. The rules and regulations promulgated by the Oil and Gas Conservation Commission will become effective when published. The publication date is about March 15, 1962. Other regulations pertaining to the oil and gas industry in Pennsylvania are Acts 225, 322, and 352, and the rules and regulations of the Sanitary Water Board of Pennsylvania relating to the disposal of waste from oil and natural gas wells.

The Pennsylvania Game Commission leased 7,690 acres of State Game Lands in 1961 for the exploration of oil and gas. The rental bid ranged from \$2.11 to \$12.12 per acre and royalties ranged from \$0.04 to \$0.087 per Mcf for gas and one-eighth royalty for oil.

The Pennsylvania Department of Forests and Waters during 1961 offered seven (7) tracts totaling 20,673 acres by regular bidding procedures. Acceptable bids were received on four (4) tracts, numbers 98 to 101, totaling 12,879 acres. Three leases bid on the rental to be paid drew bids ranging from \$2.55 to \$18.16 per acre and averaged \$10.02 per acre per year, with a royalty of \$.04 per Mcf. One lease bid on the royalty to be paid drew a bid of \$.0566 per Mcf with a rental of \$5.00 per acre per year. A total of four (4) wells were drilled on lands leased by Forests and Waters, resulting in one (1) gas well and three (3) dry holes. The seismic surveying policy adopted in 1961 by the Department began briskly with twelve (12) applications by seven (7) companies that tested ten different structures in fourteen separate counties.





Leasing in the state started out with a rush in the beginning of the year in the Valley and Ridge Province. In the fall considerable leasing activity took place in northeastern Pennsylvania. By the end of 1961 leasing was progressing at a slow pace. The total acreage held by major oil and gas companies for deep oil and gas exploration in Pennsylvania amounted to about 3,649,000 acres at the years end.

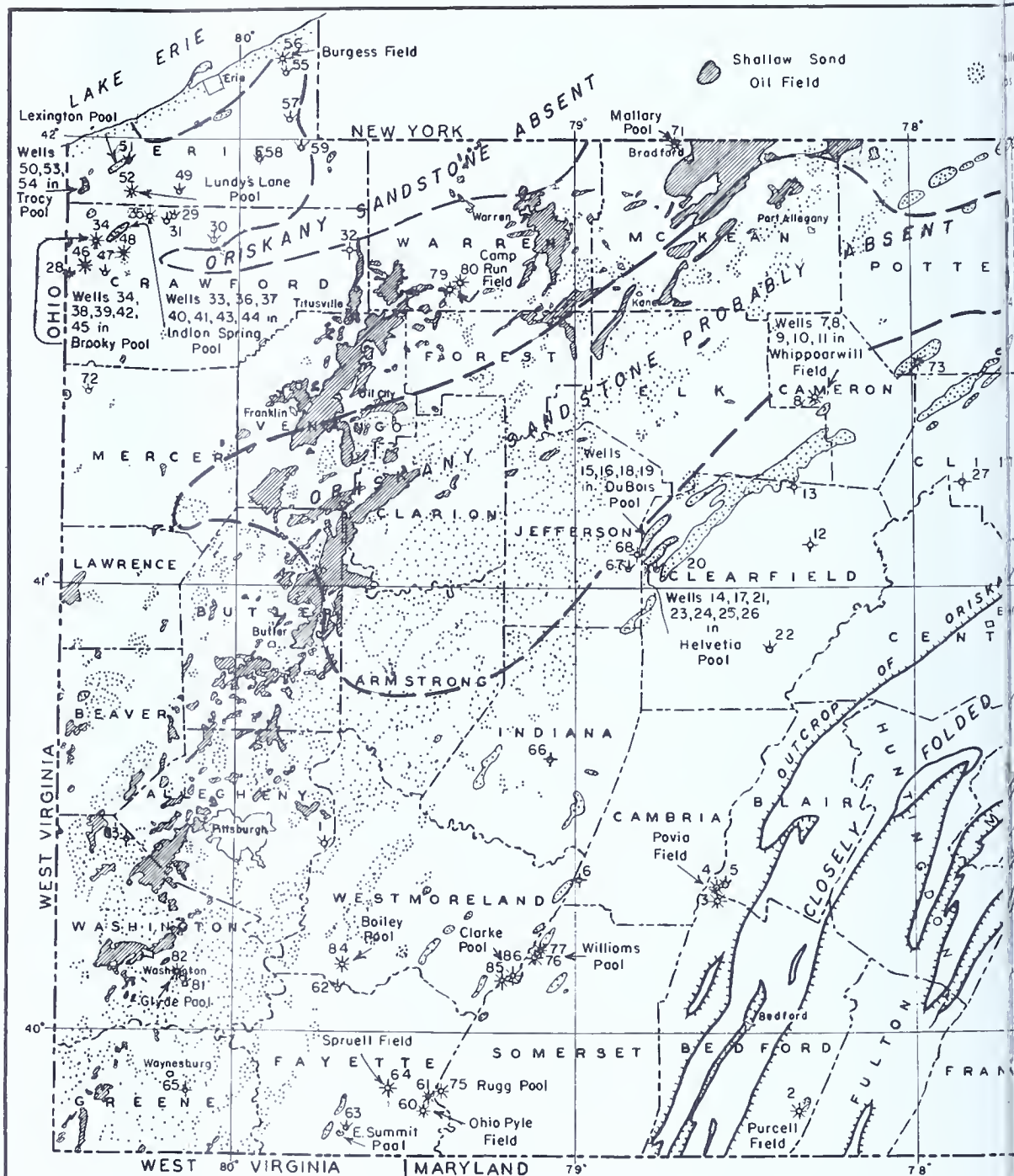
A number of geological field parties were active during 1961. In the state 133 seismic crew weeks were logged. This is an increase of about 28 percent over the seismic activity shown in 1960.

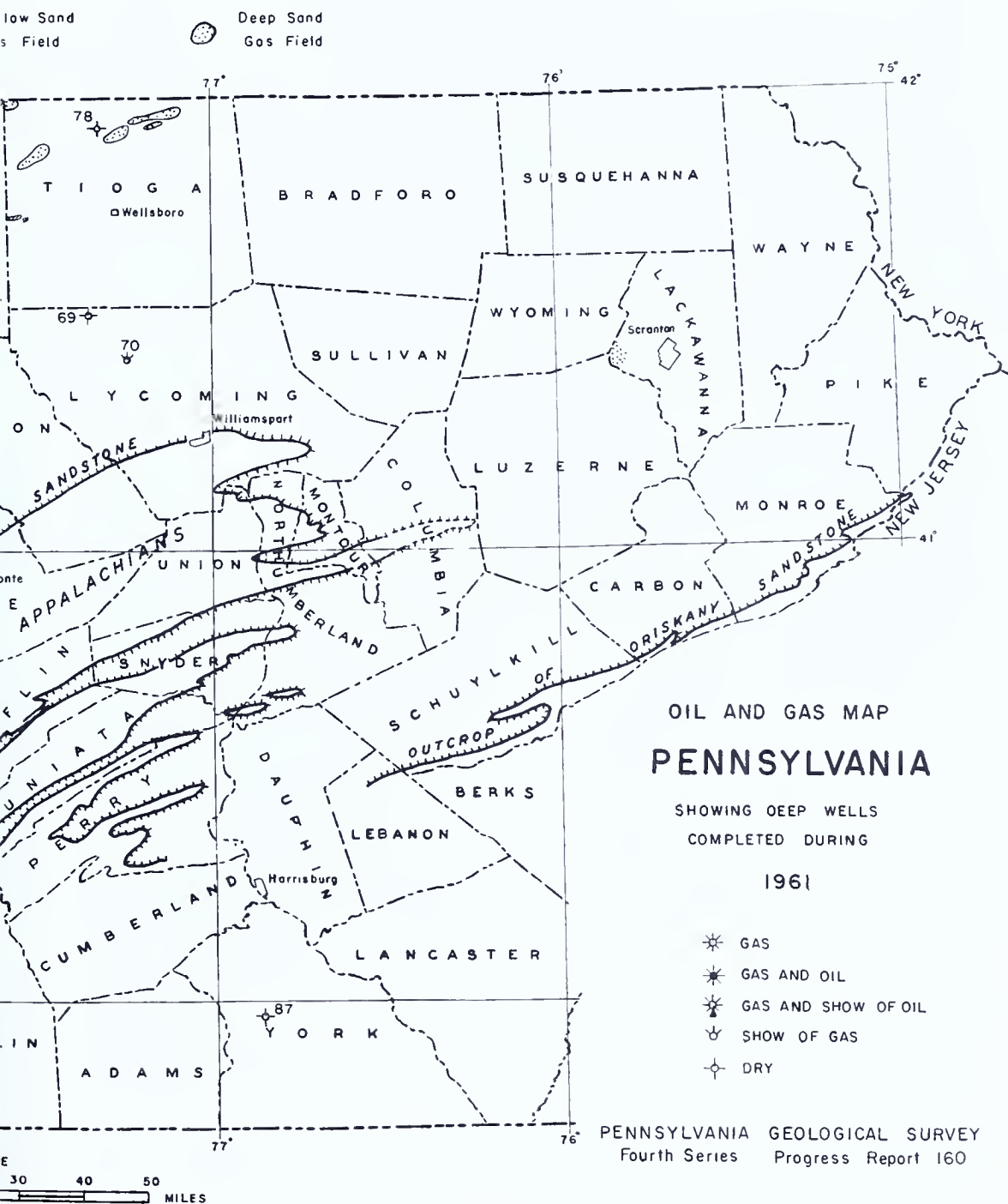
For the second consecutive year considerable interest was shown in the Medina play in northwestern Pennsylvania. This was the most active area in the state with 32 completions during the year. Activity should continue at a brisk rate in this area in 1962 with operators developing and extending the new pools discovered in 1961. Out of the 87 wells drilled during the year 37 of them were wildcats. This high percentage of wildcat drilling should continue during 1962.

Two wildcats are of considerable interest to the operators. The one creating the most interest is the basement test by Minard Run Oil Company on their Moody Lot in Bradford Township, McKean County. The target depth is about 11,000 feet. At the writing of this report the well was drilling at 6,100 feet. Only one well in western Pennsylvania has ever reached basement. This is the Kardosh No. 1 well in Crawford County whose log is shown on Plate 1. The second interesting wildcat is the Pure Oil Company well on the Charles Blenle farm in Wilmot Township, Bradford County. This is a Lower Silurian test in an area of very little deep drilling. The well was drilling at 8,175 feet at the writing of this report.

The oil producers are watching closely the two experiments in tertiary oil recovery. South Penn Oil Company in the Bradford Oil Field has completed injecting isopropyl alcohol into the Bradford Third Sand in their alcohol slug project and have switched to water. Some indication of the success of this project should be seen in the early part of 1962. The Thermal Experiment by Quaker State Refining Corporation in the First Sand of the Middle District near Grand Valley is also of considerable interest to the oil producers. After burning a mixture of air and gas in an injection well for over three months the fire was put out and a well is now being cored 14 feet away from the injection well to see what changes have taken place in the oil sand at that point.







COMPILED BY WILLIAM S. LYTLE AND VIRGINIA FAIRALL

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TABLE 4. Important Discoveries in Pennsylvania, 1961

1	2	3	4	5	6	7	8	9	10	11	12	13
Map No.	Operator	Well Name	Well Location	Completion Date	Total Depth (Feet)	Prod. Depth (Feet)	Initial Gas-MCF/Oil-Bbls.	Producing Formation	Deepest Formation Reached	Field or Pool	Exploration Classification	Remarks
4	Phillips Petroleum Co.	Pa. Tract 26 A No. 1	Greenfield Twp. Blair Co.	1/20/61	6,964	6,859	1,141 after frac	Oriskany	Heiderberg	Pavia	NF	Disc. well Pavia Field on minor anticline 6 miles west of Oriskany outcrop.
8	New York State Nat. Gas Corp.	A. Pardee Estate No. 3	Shippen Twp. Cameron Co.	7/10/61	6,804	6,774	6,039 after frac	Oriskany	Heiderberg	Whip-poor-will	NF	Disc. well Whippoorwill Field on the southeast flank of the Sabinsville Anticline.
34	J.S. McCluskey et al	Brooky No. 1	Beaver Twp. Crawford Co.	4/21/61	3,780	3,721	6,000 after frac	Medina	Medina	Brooky	NP	Disc. well Brooky Pool on Indian Spring Trend northwestern Pennsylvania.
52	Pennsylvania Gas Co.	Earl C. Miller No. 1	Elk Creek Twp. Erie Co.	11/9/61	3,460	3,418	3,000 natural	Medina	Medina	Lundys Lane	NP	Disc. well Lundys Lane Pool in Medina play in northwestern Pennsylvania.
64	Peoples Nat. Gas Co. & Snee & Eberly	Melvin Spruell No. 1	Stewart Twp. Fayette Co.	7/13/61	7,964	7,640	3,110 after frac	Onondaga Chert and Oriskany	Heiderberg	Spruell	NF	Disc. well Spruell Field on the southeast flank of the Chestnut Ridge Anticline.
80	Paul Benedum	Wheeler-Ousenberry No. 1	Limestone Twp. Warren Co.	5/12/61	6,038	5,926	250 after frac	Medina	Queenston	Camp Run	NF	Disc. well Camp Run Field on minor anticline on the Plateau Province of NW Pennsylvania.
82	John T. Galey	Sam V. Cooper No. 2	Amwell Twp. Washington Co.	9/6/61	8,135	4,128 7,451	1,000 after frac	Bradford Third Onondaga Chert Oriskany Ss Heiderberg Ls	Salina	Glyde	OP	Disc. well Glyde Pool on Amity Anticline in Daniels Run Field.
84	Peoples Nat. Gas and Snee & Eberly	A. E. Bailey No. 1	S. Huntington Twp. Westmoreland Co.	12/26/61	8,005	7,385	2,700 after frac	Onondaga Chert and Oriskany	Salina	Bailey	DP	Disc. well Bailey Pool on Fayette Anticline in Jacobs Creek Field.
85	Peoples Nat. Gas Co.	B. G. Clarke No. 1	Cook Twp. Westmoreland Co.	3/15/61	8,435	8,365	6,500 after frac	Onondaga Chert	Onondaga Chert	Clarke	NP	Disc. well Clarke Pool on Laurel Hill Anticline in Seven Springs Field.



TABLE 5. Important Dry Exploratory Tests in Pennsylvania, 1961

1	2	3	4	5	6	7	8	9
Map No.	Operator	Well Name	Well Location	Expl. Class	Compl. Date	Total Depth (Feet)	Deepest Formation Reached	Remarks
1	Albert Starr	Houston-Starr No. 1	Monroeville Twp., Allegheny Co.	NFW	9/20/61	7904	Salina	Wildcat on Murrysburg Anticline had show of gas in Oriskany.
12	N. Y. State Nat. Gas Corp. & Delta Drilg. Co.	Clearfield Trust Co. No. 1	Girard Twp., Clearfield Co.	NFW	9/14/61	7836	Heiderberg	Wildcat near axis of Clearfield Syncline.
22	N. Y. State Nat. Gas Corp.	Mid-Penn Coal Co. No. 1	Bigler Twp., Clearfield Co.	NFW	8/14/61	8151	Heiderberg	Tested the Lower Devonian section on the Laurel Hill Anticline 11 miles from nearest test.
27	Felmont Oil Corp.	Pa. Tract 91 No. 1	Beech Creek Twp., Clinton Co.	NFW	5/10/61	8160	Heiderberg	Tested the Lower Devonian section on the Hyner Anticline.
30	Atlas Expl. Co.	Joe E. Hindle No. 1	Cambridge Twp., Crawford Co.	NFW	8/18/61	4336	Queenston	Tested the Devonian and Silurian rocks in area of Oriskany pinchout.
31	Atlas Expl. Co. & Son Oil Co.	Revak No. 1	Cussewago Twp., Crawford Co.	NFW	8/18/61	3959	Queenston	A Devonian and Silurian test east of Indian Spring trend 8 miles from nearest production.
32	Albaugh, et al	Halfast No. 1	Rome Twp., Crawford Co.	NFW	9/13/61	5340	Queenston	A Devonian and Silurian test north of Titusville.
49	Redfern & Hurd	Vanco No. 1	Washington Twp., Erie Co.	NFW	10/1/61	4097	Queenston	A Devonian and Silurian test 4 miles from nearest test.
58	Apache Oil Co.	Lenart No. 1	Waterford Twp., Erie Co.	NFW	12/15/61	4021	Queenston	A Devonian and Silurian test found 24 feet of Oriskany.
59	Apache Oil Co.	Tomcho No. 1	Amity Twp., Erie Co.	NFW	9/8/61	4139	Queenston	Devonian-Silurian test in area of Oriskany pinchout.
65	J. A. Fox, et al	Geo. H. Gordon No. 1	Franklin Twp., Greene Co.	NFW	4/29/61	8659	Keyser	A Devonian test on the Bellevernon Anticline producing from an Upper Devonian pay.
66	Delta Drilg. Co. et al	J. H. Ralston No. 1	Cherry Hill Twp., Indiana Co.	NFW	1/17/61	8017	Heiderberg	A Devonian test on the Chestnut Ridge Anticline producing from Upper Devonian pay in Strongs Hill Field.
69	Felmont Oil Corp.	Pa. Game Lands Tract 75A No. 1	Brown Twp., Lycoming Co.	NFW	3/3/61	6865	Heiderberg	Devonian test on the Slate Run Anticline; prior test on this structure in 1954.
70	Felmont Oil Corp.	Wm. P. Day	Pine Twp.	NFW	4/26/61	7990	Heiderberg	Devonian test on the Cogan House Anticline
71	Bert Fields	Thomas Lihan No. 1	West Salem Twp., Mercer Co.	NFW	10/26/61	4792	Queenston	Devonian-Silurian test in western Mercer County.
74	Felmont Oil Corp.	Pa. Tract 88 No. 1	Abbot Twp., Potter Co.	NFW	5/29/61	7326	Heiderberg	Devonian test on southeast flank of Marshlands Anticline in an area of Oriskany pinchout.
81	John T. Galey & Gulf Oil Corp.	Aaron Corner No. 1	W. Bethlehem Twp., Washington Co.	NFW	1/20/61	8125	Salina	Devonian-Upper Silurian test on Amity Anticline.
87	Donelson Co.	Harry Leib No 1	Dover Twp., York Co.	NFW	4/25/61	8630	Chickies Quartzite	Tested over 7000 feet of Triassic sediments and some Lower Cambrian rocks.

TABLE 6. Deep Gas Production in Pennsylvania, 1961

County	Field	Pool	Discovery Date	Cumulative Production at End of 1960	Production in MCF Production 1961	Cumulative Production at End of 1961	Status of Field or Pool at end of 1961
Armstrong	Shellhammer	Rupert	11/14/58	220,823	40,784	261,607	Producing
Bedford	Purcell		12/14/57				Shut In
Bedford and Blair	Pavia		1/20/61		1961 discovery		Shut In
Cameron and Elk	Whippoorwill		7/10/61		1961 discovery		Producing
Cameron, Elk, Jefferson, Clearfield and Indiana	Punxsutawney-Driftwood	Benezette Driftwood Boone Mt. DuBois Helvetia Rockton Reed- Deemer Sykesville Hicks Run	9/15/51 1/ 5/53 9/15/51 8/19/58 1/ 6/60 5/11/60 2/25/55 5/ 9/55 12/ 1/53 11/10/60 6/ 7/56	374,500,000 222,000,000 62,000,000 88,000,000 2,500,000 155,140,400	30,800,000 4,000,000 13,500,000 13,000,000 300,000 2,312,432	405,300,000 226,000,000 75,500,000 101,000,000 2,800,000 157,452,832	Producing Producing Producing Producing Producing Producing & Gas Storage
Clinton and Potter	Leidy	Downs Tamarack Greenlick Leidy Ole Bull	1/ 9/50 5/18/54 2/25/52 1/25/55 1/ 9/50 1/ 9/59	11,400,000 49,000,000 94,000,000 740,400	400,000 1,912,432	49,400,000 2,652,832	Gas Storage 1959 Gas Storage 1961 Gas Storage 1959 Producing
Crawford	Indian Spring	Indian Spring Brooky	9/11/57 9/11/57 4/21/61		569,970 569,970	569,970 569,970	Producing Producing
Crawford and Erie	Conneaut	Beaver Creek Blass Conneaut Forro Lexington Lundys Lane Penside Pierce Roberts Tracy	9/11/57 5/26/49 7/ 2/58 9/18/59 1/14/58 9/26/59 11/ 9/61 9/ 9/59 12/31/58 11/ 1/58 8/10/60	162,500	7,600 1961 discovery	170,100 170,100	Producing-Shut In Shut In Shut In Shut In Producing Producing Shut In Producing Producing

TABLE 6. Deep Gas Production in Pennsylvania, 1961 (Continued)

County	Field	Pool	Discovery Date	Production in MCF		Status of Field or Pool at end of 1961
				Cumulative Production at End of 1960	Production 1961	
Erie	Burgess Corry		10/17/60		26,844	Producing
			4/29/47	953,800	6,522	Producing & Gas Storage
Fayette	Meade Phillipsville	Beaver Dam Corry	5/20/53	100,100	6,522	Producing
			4/29/47	853,700		Gas Storage 1955
			8/23/46	4,886,600		Gas Storage 1959
			7/17/56	5,000		Shut In
Indiana	Spruell Summit	East Summit North Summit South Summit	10/13/61		1961 discovery	Shut In
			3/24/38	38,726,586	479,232	Producing
			12/31/60			Shut In
			5/9/42	19,869,632	121,783	Producing
McKean	Ohiopyle	Rugg	12/28/59	18,856,954	357,449	Producing
			2/25/60		949,304	Producing
Potter	Jacksonville Nolo		9/21/56	14,535,238	984,069	Producing
			9/30/56	5,000,000	400,000	Producing
Somerset	Allegany State Park	Mallory	12/ 1/60	?	?	Producing
Potter	East Fork-Wharton Ellisburg	Bingham Center Ellisburg West Bingham Brookfield Harrison Hebron Champlin Hebron Sharon Ulysses	2/23/33	32,347,000	preparing field for storage	Producing
			9/ 1/33	78,000,000	92,571	Producing
			1/ 2/39			Producing
			9/ 1/33	78,000,000	92,571	Producing
			7/16/36			Shut In
			6/15/34	33,974,000		Shut In & Gas Storage
			5/16/38	600,000		Shut In
			6/15/34	33,374,000		Gas Storage 1953
			12/ 3/31	44,559,000		Shut In & Gas Storage
			3/ 3/34	500,000		Shut In
Somerset	Boswell Snyder		12/ 3/31	44,059,000		Gas Storage 1953
			12/23/38	11,555,000		Gas Storage 1948
			10/ 2/39	1,400,000	20,460	Producing
			11/11/58	2,911,406	1,199,838	Producing
Somerset	Boswell Snyder		11/11/58	2,846,410	1,082,456	Producing
			6/16/60	64,996	117,382	Producing

TABLE 6. Deep Gas Production in Pennsylvania, 1961 (Continued)

County	Field	Pool	Discovery Date	Production in MCF			Status of Field or Pool at end of 1961
				Cumulative Production at End of 1960	Production 1961	Cumulative Production at End of 1961	
Tioga	Sabinsville Tioga	East Tioga (Boon) Meeker West Tioga (Palmer)	8/19/35	32,680,000			Gas Storage 1951
			Sept. 1930	37,213,000			Gas Storage
			1930				Gas Storage 1940
			1930	37,213,000			Gas Storage 1935
Warren	Camp Run		5/12/61		1961 discovery		Producing
Washington	Daniels Run	Glyde	9/ 6/61		1961 discovery		Producing
Westmoreland	Dry Ridge Jacobs Creek Lycippus	Bailey	8/25/46	?	?	?	Producing
		Derry	12/26/61	4,073,114	1961 discovery	4,421,568	Shut In
		Piper	8/17/49	8,506	348,454	42,905	Producing
		St. Boniface	12/ 5/58	610,552	34,399	627,629	Producing
		Chapel	8/17/49		17,077		Producing
			9/13/56	3,454,056	296,978	3,751,034	Producing
Westmoreland and Somerset	Johnstown	Baldwin	5/16/57	5,787,912	2,352,024	8,139,936	Producing
		Beck	5/22/60	1,310,880	1,037,510	2,348,390	Producing
		Williams	5/16/57	4,477,032	1,314,514	5,791,546	Producing
			2/14/58	1,956,034	1,079,453	3,035,487	Producing
Seven Springs	Blair	Blair	12/ 5/58	1,779,439	850,487	2,629,926	Producing
		Clarke	3/15/61		174,485	174,485	Producing
		Kooser	5/19/59	176,595	54,481	231,076	Producing

TABLE 7. List of Wells Reaching or Penetrating Lower Silurian Medina Group

COUNTY Quadrangle & Number	Farm Name	Year Compl. 19__	Depth to		Deepest Formation Reached
			Medina	Trenton	
<b>BEAVER</b>					
New Castle 8	Jas. Tennis Hrs.	40	6,588	-	Queenston
<b>BEDFORD</b>					
Bedford 1	Jessie B. Miller	52	2,870	7,810	Beekmantown
<b>BLAIR</b>					
Hollidaysburg 1	Edward Bigley	57	907	-	Juniata
<b>BUTLER</b>					
Foxburg 1	J. S. Walker	55	7,215	-	Queenston
Mercer 2	Jessie G. Hockenberry	44	6,433	8,812	Gatesburg
<b>CLINTON</b>					
Howard 1	Corman	53	?	-	Tuscarora (Medina)
Lock Haven 1	Cliford Walizer	53	-	-	Gatesburg
<b>CRAWFORD</b>					
Andover 19	Fred Carter	61	3,731	-	Queenston
Cambridge Springs 9	Revak	61	3,746	-	Queenston
Cambridge Springs 10	Joe E. Hindle	61	4,102	-	Queenston
Corry 26	Halfast	61	5,136	-	Queenston
Girard 7	Herbert Gates	16	?	-	Medina
Girard 10	Pierce Lorange	16	3,415	-	Medina
Girard 13	Alpha Cózadd	49	3,426	-	Queenston
Girard 14	Wilbur Bittel	46	?	-	Medina
Girard 22	Indian Spring	57	3,625	-	Medina
Girard 24	Henry Rippert	58	3,498	-	Queenston
Girard 25	Louis Forro	58	3,611	-	Queenston
Girard 26	Harry Wigand	58	3,568	-	Queenston
Girard 27	Shadeland #1	58	3,372	-	Queenston
Girard 32	Conneaut Valley Farms	59	3,333	-	Queenston
Girard 35	Shadeland #2	60	3,347 ?	-	Medina
Girard 40	Lewis Sergeant	60	3,276	-	Queenston
Girard 43	J. Lehman	60	3,536	-	Medina
Girard 46	Brooky	61	3,672	-	Medina
Girard 47	Jos. Jorski	61	3,548	-	Medina
Girard 48	Fred Post, Jr.	61	3,639	-	Medina
Girard 49	C. H. Tyler #2B	61	3,706	-	Medina
Girard 51	Worden	61	3,449 ?	-	Medina
Girard 52	Gerald L. Walton	61	3,497	-	Queenston

TABLE 7. List of Wells Reaching or Penetrating Lower Silurian Medina Group (Continued)

COUNTY Quadrangle & Number	Farm Name	Year Compl. 19__	Depth to		Deepest Formation Reached
			Medina	Trenton	
CRAWFORD (continued)					
Cirard 53	Nan Sims	61	3,528 ?	-	Medina
Cirard 54	George Hlopic	61	3,684	-	Queenston
Cirard 55	Harry Ransom	61	3,440 ?	-	Medina
Cirard 57	Rudy Address	61	3,750	-	Queenston
Cirard 58	John Post	61	3,620	-	Queenston
Cirard 60	L. W. Holloway	61	3,500 ?	-	Medina
Linesville 2	Jas. Naylor	23	4,212	-	Queenston
Linesville 3	Huide Koper	16	4,080 ?	-	Queenston
Linesville 4	C. Scott	36	4,243 ?	-	Queenston
Linesville 5	R. C. Jamison	30	4,348	-	Queenston
Linesville 6	E. Calvin #2	48	4,663	-	Queenston
Linesville 8	G. J. Russell	51	3,875	-	Queenston
Linesville 9	Cood, Walsh & Russell	52	3,908	-	Queenston
Linesville 10	Zickefoose	52	4,186	-	Queenston
Linesville 11	T. R. Cain	55	3,900 ?	-	Queenston
Linesville 12	Robert L. Oaks	56	3,840	-	Queenston
Linesville 13	Ed. Mullen	56	4,496	-	Queenston
Linesville 14	J. Kardosh	58	4,108	6,220	Precambrian
Linesville 15	R. A. Lampman	61	3,890	-	Queenston
Linesville 16	W. E. Hart	61	3,721	-	Queenston
Linesville 17	Page	61	3,687	-	Queenston
Linesville 18	C. R. Berkheimer	61	3,804	-	Queenston
Meadville 1	N. D. Dahl	37	4,245	-	Queenston
Union City 1	J. Chapin	37	4,115	-	Queenston
ELK					
Hallton 1	Pa. Came Lands Wt. 3653 #1	45	7,340	-	Queenston
Kane 1	Warrant 3788 Well 3737	28	7,076	-	Queenston
ERIE					
Cambridge Springs 1	Marsh Hrs. (Rick, Lampson)	14	3,502	-	Queenston
Cambridge Springs 2	Chauncey Blount	32	3,685	-	Queenston
Cambridge Springs 3	Wm. Steadman (Stafford)	12	3,472	-	Queenston



TABLE 7. List of Wells Reaching or Penetrating Lower Silurian Medina Group (Continued)

COUNTY Quadrangle & Number	Farm Name	Year Compl. 19__	Depth to		Deepest Formation Reached
			Medina	Trenton	
ERIE (continued)					
Cambridge Springs 6	Ethridge	57	3,935	5,875	Gatesburg
Cambridge Springs 11	Vanco	61	3,900	-	Queenston
Corry 1	W. W. Stutzman #1	47	4,233	-	Queenston
Corry 2	C. J. Follette #1	47	4,391	-	Queenston
Corry 3	C. J. Follette #2	48	4,347 ?	-	Queenston
Corry 4	A. D. Peterson	48	4,418 ?	-	Queenston
Corry 5	John Kalika	47	4,412	-	Queenston
Corry 6	Frank Cooper	51	4,343	-	Queenston
Corry 7	C. J. Follette #3	51	4,348 ?	-	Whirlpool ?
Corry 8	Hazen Follette #1	51	4,325	-	Queenston
Corry 9	C. J. Follette #4	52	4,349 ?	-	Queenston
Corry 10	Hazen Follette #2	52	4,345 ?	-	Queenston
Corry 11	Hazen Follette #3	52	4,339	-	Queenston
Corry 12	Ivan Miller	53	4,318	-	Queenston
Corry 13	Frank Stutzman	53	4,143	-	Queenston
Corry 14	Edith Adams #1	53	4,310	-	Queenston
Corry 15	W. W. Stutzman #2	53	4,295	-	Queenston
Corry 17	Boyd Spencer	54	4,273	-	Queenston
Corry 18	Sicklucky	54	4,372	-	Queenston
Corry 19	Nelson Williams	54	4,322	-	Queenston
Corry 20	Edith Adams #2	54	4,238	-	Queenston
Corry 21	J. L. Sill	54	4,349 ?	-	Medina
Corry 22	M. DeWitt	54	4,210 ?	-	Medina
Corry 23	Lee Proctor	54	4,201	-	Queenston
Corry 24	L. I. Sill	55	4,135	-	Queenston
Erie 1	Presque Isle	10	2,340 ?	-	Reedsville
Erie 2	Erie Deep Well	1889	2,430 ?	4,250 ?	Trenton
Erie 7	Chester Fuhrman	48	3,233	-	Queenston
Erie 10	T. Lininger	13	3,420 ?	-	Queenston
Erie 56	C. A. Blass	58	3,095	-	Queenston
Erie 62	Goodwell-Curley	56	3,291	5,176	Gatesburg
Erie 95	Lillian Zimmerly	56	3,046	-	Queenston

TABLE 7. List of Wells Reaching or Penetrating Lower Silurian Medina Group (Continued)

COUNTY Quadrangle & Number	Farm Name	Year Compl. 19__	Depth to		Deepest Formation Reached
			Medina	Trenton	
ERIE (continued)					
Fairview 1	Frances Miles	32	2, 550	-	Medina
Fairview 2	J. F. Miles #3	33	2, 502	-	Medina
Fairview 3	Pa. Offshore Block 1, #1	58	2, 492	4, 291	Gatesburg
Girard 1	J. Childs	41	2, 624	4, 437	Gatesburg
Girard 2	N. Blickensderfer #22	42	2, 615	4, 397	Trenton
Girard 3	Jack Benedict	32	2, 712 ?	-	Queenston
Girard 4	Chas. B. Berst	32	2, 779	-	Queenston
Girard 5	Wm. C. Kibler	27	2, 776	-	Queenston
Girard 28	Edna Roberts	58	3, 050	-	Queenston
Girard 29	F. Pierce	58	2, 683	-	Queenston
Girard 30	Korynoski	59	3, 030	-	Medina
Girard 31	C. Huston #1	59	3, 195	-	Queenston
Girard 33	Frank Kominsky #1	60	3, 044	-	Medina
Girard 34	Borst	60	3, 264	5, 225	Gatesburg
Girard 36	Huston #2	60	3, 187	-	Queenston
Girard 37	Wilkinson	60	3, 018	-	Medina
Girard 38	Barney	60	2, 881 ?	-	Medina
Girard 39	R. Hammer #1	60	2, 985	-	Queenston
Girard 41	John Vojtko	60	3, 002	-	Medina
Girard 42	Pa. Game Comm. Tract 101 A	60	3, 229	-	Queenston
Girard 44	C. Ebner	60	3, 082 ?	-	Queenston
Girard 45	Mary Leech	61	3, 050	-	Medina
Girard 50	O. E. Park	61	3, 162	-	Queenston
Girard 56	Rossiter	61	3, 121	-	Queenston
Girard 59	Earl C. Miller	61	3, 368 ?	-	Medina
Girard 61	Jud Harrington	61	3, 134	-	Queenston
Northeast 1	Mattier Bros.	?	?	-	Queenston
Northeast 2	Heard	14	2, 345	-	Queenston
Northeast 3	Jas. Sheridan	?	?	-	Queenston
Northeast 4	Silliman	?	?	-	Queenston
Northeast 5	Moorhead	?	?	-	Queenston
Northeast 8	Dell Lewis	32	3, 482	-	Queenston

TABLE 7. List of Wells Reaching or Penetrating Lower Silurian Medina Group (Continued)

COUNTY Quadrangle & Number	Farm Name	Year Compl. 19__	Depth to		Deepest Formation Reached
			Medina	Trenton	
ERIE (continued)					
Northeast 13	Truesdail	58	3,820	-	Medina
Northeast 19	James Henderson	58	3,453	-	Queenston
Northeast 20	Pa. State Game Lands	58	3,418	-	Queenston
Northeast 24	Pa. Offshore Block 2	59	2,085	3,950	Gatesburg
Northeast 25	D. W. Tompson	60	2,774 ?	-	Queenston
Northeast 26	Esterline	61	2,672 ?	-	Queenston
Northeast 27	Eades	61	3,132 ?	-	Queenston ?
Northeast 28	Kobielski	61	3,766	-	Queenston
Union City 4	Tomcho	61	3,947	-	Queenston
Union City 5	Lenart	61	3,811	-	Queenston
LYCOMING					
Williamsport 1	W. E. Snyder	51	-	-	Mid Cambrian ?
MCKEAN					
Bradford 1	Delo	14	5,560	-	Queenston
Bradford 2	L. D. Wilson #18	48	6,163	-	Reedsville
Kinzua 11	Warrant 3410 #1	57	6,424	-	Queenston
Smethport 3	Chas. Nunn #2	45	6,425	-	Queenston
MERCER					
Shenango 2	Herm K. Smith	46	4,768	-	Queenston
Shenango 3	A. S. McCullough	39	5,262	-	Queenston
Shenango 4	Maffie	52	4,678 ?	-	Queenston
Shenango 5	Emma McKnight	56	4,653	6,749	Warrior-Eau Claire
Shenango 7	Thomas Lihan	61	4,586	-	Queenston
Stoneboro 1	J. Paul Miller (Coulson)	45	5,429	-	Queenston
Stoneboro 3	Maude Davidson	45	?	8,179	Beekmantown ?
Stoneboro 4	Earl B. Minnis	42	?	-	Medina ?
Youngstown 4	Chas. Cromartie	52	4,920	-	Queenston
POTTER					
Emporium 1	Crawford Est.	38	8,005	-	Queenston
SULLIVAN					
Eagles Merc 1	A. Bennett	51	11,740	-	Juniata
UNION					
Sunbury 1	Solomon	55	0	6,232	Beekmantown
WARREN					
Corry 16	Orin Smith	53	5,138	-	Queenston

TABLE 7. List of Wells Reaching or Penetrating Lower Silurian Medina Group (Continued)

COUNTY Quadrangle & Number	Farm Name	Year Compl. 19__	Depth to		Deepest Formation Reached
			Medina	Trenton	
WARREN (continued)					
Tidioute 1	UIF	28	5, 597	-	Queenston
Tidioute 2	J. Bowman Proper	55	5, 732	-	Queenston
Tidioute 3	Shaw	57	5, 840	8, 300	Gatesburg
Tidioute 4	Frank Kapp #1	60	5, 648	-	Queenston
Tidioute 5	Wheeler-Dusenberry	61	5, 860	-	Queenston
Tidioute 6	Frank Kapp #2	61	5, 650 ?	-	Medina
Titusville 1	Reeves	45	5, 401	-	Queenston
Warren 1	Chas. Erickson	38	5, 408	-	Queenston
Youngsville 1	Anderson	47	4, 228	-	Queenston
Youngsville 2	Spetz #1184	37	4, 961	-	Queenston
Youngsville 3	I. L. Anderson	22	4, 537 ?	-	Queenston
Youngsville 4	Mrs. Carl Keester	57	4, 721	-	Queenston
YORK					
Hanover 1	Harry Leib	61	-	-	Cambrian

TABLE 8. Shallow-Sand Well Completions in Pennsylvania, 1961\*

County	TOTAL			GAS			OIL			DRY		
	No. of Wells	Aver. Total Depth (Feet)	No. of Wells	Aver. Init. Open-flow (MCFPD)	Aver. Total Depth (Feet)	No. of Wells	Aver. Init. Prod. (BOPD)	Aver. Total Depth (Feet)	No. of Wells	Aver. Total Depth (Feet)	No. of Wells	Aver. Total Depth (Feet)
Allegheny	5	2, 571	1	550	3, 975	3	-	2, 314	1	1, 938	1	1, 938
Armstrong	46	3, 043	43	553	3, 107	1	-	1, 612	2	2, 370	2	2, 370
Butler	2	3, 220	2	373	3, 220	-	-	-	-	-	-	-
Clarion	26	2, 468	24	172	2, 473	-	-	-	2	2, 405	2	2, 405
Clearfield	4	2, 640	2	155	2, 796	-	-	-	2	2, 483	2	2, 483
Crawford	1	789	-	-	-	1	-	789	-	-	-	-
Elk	5	2, 244	2	35	2, 058	2	2.75	2, 554	1	2, 000	1	2, 000
Fayette	1	1, 359	1	904	1, 359	-	-	-	-	-	-	-
Forest	20	982	6	6	1, 270	6	-	917	8	815	8	815
Greene	3	1, 883	-	-	-	2	1.2	2, 157	1	1, 335	1	1, 335
Indiana	24	3, 505	19	1, 292	3, 352	-	-	-	5	2, 609	5	2, 609
Jefferson	12	2, 928	8	36	2, 970	-	-	-	4	2, 845	4	2, 845
McKean	4	1, 870	2	7	1, 814	-	-	-	2	1, 927	2	1, 927
Mercer	4	1, 152	-	-	-	1	-	773	3	1, 279	3	1, 279
Potter	5	1, 503	-	-	-	5	-	1, 503	-	-	-	-
Venango	20	892	-	-	-	15	1.25	857	5	998	5	998
Warren	7	569	-	-	-	7	7.5	569	-	-	-	-
Washington	5	2, 445	1	5	1, 905	-	-	-	4	2, 581	4	2, 581
Westmoreland	31	3, 248	24	1, 090	3, 264	-	-	-	7	3, 195	7	3, 195
Total	225	2, 368	135	679	2, 883	43	3.14	1, 149	47	2, 151	47	2, 151

\* Does not include wells drilled in connection with underground gas storage or secondary-recovery oil operations.

TABLE 9. Shallow-Sand Wells Deepened in Pennsylvania, 1961\*

County	TOTAL			GAS			OIL			DRY		
	No. of Wells	Aver. Amount Deepened (Feet)	No. of Wells	Aver. Init. Open-flow (MCF PD)	No. of Wells	Aver. Amount Deepened (Feet)	No. of Wells	Aver. Init. Prod. (BOPD)	Aver. Amount Deepened (Feet)	No. of Wells	Aver. Amount Deepened (Feet)	
Armstrong	13	1, 184	11	458	11	1, 225	-	-	-	2	963	
Butler	1	2, 287	-	-	-	-	-	-	-	1	2, 287	
Clarion	2	1, 545	-	-	-	-	1	-	500	1	2, 590	
Fayette	1	1, 360	1	22	1	1, 360	-	-	-	-	-	
Greene	2	82	2	52	2	82	-	-	-	-	-	
Indiana	7	1, 169	5	1, 011	5	1, 051	-	-	-	2	1, 465	
Jefferson	3	1, 447	2	41	2	1, 867	-	-	-	1	610	
Westmoreland	1	2, 700	-	-	-	-	-	-	-	1	2, 700	
Total	30	1, 251	21	499	21	1, 281	1	-	500	8	1, 630	

\* Does not include wells drilled in connection with underground gas storage or secondary-recovery oil operations.



TABLE 11. SUMMARIZED RECORDS OF DEEP WELLS DRILLED IN PENNSYLVANIA IN 1961

COUNTY	Allegheny	Bedford	Bedford	Blair	Blair	Cambria	Cameron	Cameron	Cameron	Cameron
MAP NUMBER	1	2	3	4	5	6	7	8	9	10
NAME OF WELL	Houston-Starr 1	Herbert Akers 2	Pa Tract 26-B 1	Pa Tract 26-A 1	Pa Tract 26-A 2	Piney Run Mining Co.	F Coleman 1	A Pordee Est 3	A Pordee Est 4	A Pordee Est 5
OPERATOR	Albert Starr NYSNG Corp N-793	Monroe NYSNG Corp N-793	Phillips Petroleum Co.	Phillips Petroleum Co.	Phillips Petroleum Co.	Charles S Grabak	Lee E Minter	NYSNG Corp GL Cabot, Inc.	NYSNG Corp GL Cabot, Inc.	NYSNG Corp GL Cabot, Inc.
TOWNSHIP	Monroeville 2	Greensburg 2	Union 3	Greenfield 1	Greenfield 2	Lower Yoder	Shippen	Shippen	Shippen	Shippen
QUADRANGLE	Greensburg 2	Clearville 9	Ebensburg 3	Ebensburg 1	Ebensburg 2	Johannstown 1	Benezette 280	Benezette 276	Benezette 277	Benezette 278
LATITUDE	6000 ft S 40° 25'	2200 ft S 39° 50'	11,200 ft S 40° 20'	6550 ft S 40° 20'	2750 ft S 40° 20'	3300 ft N 40° 20'	1800 ft N 41° 25'	4900 ft N 41° 25'	6700 ft N 41° 25'	3000 ft N 41° 25'
LONGITUDE	3800 ft E 79° 45'	6150 ft W 78° 20'	2250 ft W 78° 35'	350 ft W 78° 35'	2000 ft E 78° 35'	3200 ft E 79° 00'	12,000 ft W 78° 15'	7200 ft W 78° 15'	4800 ft W 78° 15'	9450 ft W 78° 15'
DATE COMPLETED	9 - 20 - 61	2 - 8 - 61	7 - 3 - 61	1 - 20 - 61	3 - 18 - 61	4 - 19 - 61	12 - 12 - 61	7 - 10 - 61	10 - 18 - 61	9 - 23 - 61
ELEVATION	985 MB	1010 DF	2409 MB	2395 MB	2318 MB	2292 G	1515 G	1595 DF	1572 MB	1528 DF
TULLY	6953 -			Hamilton, 5755 -	Hamilton, 5707 -	Burket, 8430 -	6029 - 6121	6139 -	6136 - 6220	6050 -
ONONDAGA	LIMESTONE 7410 - CHERT 7428 -	4468 - 4569	6734 - 6785 -	6766 -	6747 - 6800 -		6630 - 6642 -	6737 - 6749 -	6740 - 6750 -	6650 - 6660 -
ORISKANY	7610 - 7659 SG	4569 - 4700 Gas, 4595-4600 4614 - 4633	6827 - 6903 SG, 6830 - 6845	6859 - 6932 Gas, 6859 - 89	6842 - SG		6673 - 6703 Gas of 6673	6771 - Gas, 6771 - 6803	6774 - 6810	6688 - 6721 Gas, 6689 - 6703
HELDERBERG	7659 -	4700 -	6903 -	6932 -			6703 -	6803 -	6810 -	6721 -
SALINA										
GUELPH - LACKPORT										
MEDINA	RED MEDINA (GRIMSBY)									
	WHITE MEDINA (WHIRLPOOL)									
QUEENSTON										
TOTAL DEPTH	7904	4714	6984	6964	6864	8455	6704	6804	6813	6722
DEEPEST FORMATION REACHED	Keyser	Helderberg	Helderberg	Helderberg	Helderberg	Burket	Helderberg	Helderberg	Helderberg	Helderberg
RESULT	Show of gas Abandoned	450 Mcf gas RP 1895 psi 72 hrs	539 Mcf gas RP 2760 psi 4 days	SG, 6672-6680 141 Mcf gas, 4F RP 3185 psi, 60 hrs Discovery Well Pavia Field	25 Mcf gas, 4F Abandoned	Dry Abandoned	12,000 Mcf gas AF RP 3188 psi 25 hrs	6039 Mcf gas, AF RP 3902 psi 18 hrs Discovery Well Whippoorwill Field	85 Mcf gas, AF from Oriskany 3500 ft of salt water Abandoned	18762 Mcf gas AF RP 3160 psi 84 hrs

OF Derrick Floor  
 KB Gas, Bushing  
 RT Rotary Table  
 TC Top of Casing

SUMMARIZED RECORDS OF DEEP WELLS (continued)

COUNTY	Cameron	Clearfield	Clearfield	Clearfield	Clearfield	Clearfield	Clearfield	Clearfield	Clearfield	Clearfield	Clearfield	Clearfield
MAP NUMBER	12	12	12	12	15	16	17	18	19	20		
NAME OF WELL	A Pardee Est 7	Clearfield Trust, Co	Parsons Broas	TW Chapman 1	Joseph Cherry 1	Jos Jusnukis 1	L.L. & S. Kougher 1	C.H. Prescott et al., 1	Geo Prokop 1	R&P Coal Co 2		
OPERATOR	NYSNG Corp G.L. Cabot, Inc	NYSNG Corp Delta Drilg. Co.	Parsons Broas	NYSNG Corp Lee E Minter	NYSNG Corp Lee E Minter	NYSNG Corp Lee E Minter	NYSNG Corp Lee E Minter	The Sylvania Corp, 386	Fairman Drilling Co	NYSNG Corp N-805		
TOWNSHIP	Shippin	Girard	Goshen	Brady	Sandy	Sandy	Sandy	Sandy	Sandy	Brady		
QUADRANGLE	Benezette 279	Clearfield 45	Clearfield 44	Du Bois 26	Du Bois 33	Du Bois 27	Du Bois 29	Du Bois 34	Du Bois 35	Du Bois 28		
LATITUDE	7500 ft N 41° 25'	6300 ft N 41° 05'	7750 ft S 41° 15'	1350 ft S 41° 05'	7200 ft N 41° 05'	300 ft N 41° 05'	2000 ft N 41° 05'	7100 ft N 41° 05'	3600 ft N 41° 05'	15,950 ft S 41° 05'		
LONGITUDE	6200 ft W 78° 15'	5000 ft E 78° 20'	6400 ft W 78° 25'	2100 ft W 78° 45'	7300 ft W 78° 45'	5500 ft W 78° 45'	4200 ft W 78° 45'	8200 ft W 78° 45'	8750 ft W 78° 45'	4300 ft W 78° 45'		
DATE COMPLETED	12 - 1 - 61	9 - 14 - 61	6 - 9 - 61	2 - 4 - 61	7 - 21 - 61	4 - 3 - 61	4 - 23 - 61	10 - 13 - 61	11 - 28 - 61	7 - 6 - 61		
ELEVATION	1581 DF	1437 DF	2062 DF	1554 DF	1540 DF	1614 DF	1510 DF	1540 DF	1573 DF	1511 DF		
TULLY	6062 -	6874 -	6418 -	6610 - 6715	6632 -	6705 -	6615 -	6650 - 6755	6665 -	6625 -		
ONONDAGA	LIMESTONE CHERT	7722 - 7737 -		7195 - 7213 -	7186 - 7205 -	7258 - 7275 -	7191 - 7205 -	7205 - 7220 -	7219 - 7237 -	7233 - 7251 -		
ORISKANY	6707 - 6742	7763 - 7785		7269 - Gas at 7271-74	7265 - Gas at 7268	7329 - Gas at 7332	7265 - SG at 7269 SW	7289 - Gas	7302 - Gas	7302 SG at 7303-06 SW at 7306		
HELDERBERG	6142 -	7785 -										
SALINA												
GUELPH - LOCKPORT												
MEDINA	RED MEDINA (GRIMSBY)											
	WHITE MEDINA (WHIRLPOOL)											
QUEENSTON												
TOTAL DEPTH	6743	7836	6538	7282	7273	7341	7279	7299	7314	7322		
DEEPEST FORMATION REACHED	Helderberg	Heiderberg	Hamilton	Oriskany	Oriskany	Oriskany	Oriskany	Oriskany	Oriskany	Oriskany		
RESULT	39 Mcf gas AF from 6691-6743 900 ft SW in 36 hrs Abandoned	Dry Abandoned	Abandoned above Onondaga	5876 Mcf gas AF RP 2069 psi 6.6 hrs	3450 Mcf gas natural RP 3889 psi 132 hrs	7020 Mcf gas AF RP 2640 psi 48 hrs	630 ft SW in 14 hrs Abandoned	1345 Mcf gas natural RP 3690 psi 63 hrs	1111 Mcf gas natural RP 3707 psi 72 hrs	9 Mcf gas & soil water Abandoned		

COUNTY	Clearfield	Clearfield	Clearfield	Clearfield	Clearfield	Clinton	Crawford	Crawford	Crawford
MAP NUMBER	21	22	23	24	25	26	27	28	29
NAME OF WELL	Geo Robertson I	Mid Penn Coal Co., I	J L Chick I	Green Glen WI 3580-2	Green Glen WI 3580-3	E B Sheltler I	Pa Tract 91 I	Fred D Carter I	Tony Gasick I
OPERATOR	Lee E Minter et al	NYSNG Corp N-808	Lee E Minter NYSNG Corp	Fairman Drilling Co	Fairman Drilling Co	NYSNG Corp N-801	Felmont Oil Corp F-133	JSMcCluskey	Atlas Drilg. Co Sun Oil Co
TOWNSHIP	Sandy	Bigler	Sandy	Sandy	Sandy	Sandy	Beech Creek	Conneaut	Cussewago
QUADRANGLE	Du Bois 31	Houtzdale I	Penfield 275	Penfield 273	Penfield 274	Penfield 276	Snow Shoe 5	Andover 19	Cambridge Springs, 8
LATITUDE	1200 ft S 41° 05'	11,050 ft N 40° 50'	4700 ft N 41° 05'	9800 ft N 41° 05'	10,800 ft N 41° 05'	5800 ft N 41° 05'	3800 ft S 41° 15'	17,200 ft S 41° 45'	500 ft S 41° 50'
LONGITUDE	7250 ft W 78° 45'	6130 ft W 78° 25'	5100 ft E 78° 45'	8700 ft W 78° 40'	9950 ft W 78° 40'	9100 ft E 78° 45'	4100 ft W 77° 50'	2500 ft W 80° 30'	11,600 ft W 80° 10'
DATE COMPLETED	4 - 26 - 61	8 - 14 - 61	2 - 21 - 61	1 - 12 - 61	2 - 6 - 61	3 - 21 - 61	5 - 10 - 61	6 - 27 - 61	5 - 19 - 61
ELEVATION	1564 DF	1580 RT	1651 DF	1532 DF	1464 DF	1546 DF	2158 RT	1120 DF	1345 DF
TULLY	6630 -	7035 - 7099	6711 -	6584 -	6574 -	6560 -	7093 - 7254	2240 - 2272	2422 - 2485
ONONDAGA	7182 - 7200 -	7932 - 7955 -	7274 - 7288 -	7179 - 7189 -	7161 - 7172 -	7159 - 7176 - Gas	8048 -	2384 -	2623 -
ORISKANY	7268 - Gas at 7270	8006 - 8026 SG	7340 - Gas at 7342	7243 - Gas at 7245		7234 - Gas	8081 - 8110	2596 - SW at 2605	2850 - 2854 Gas
HELDERBERG		8026 -					8110 -		Boss Island, Heldersburg, 2875
SALINA								2680 -	
GUELPH-LOCKPORT								Lockport 3316 - Clinton 3630-3731 Irederode 3696-3704 Kodiak	Lockport 3708 - Clinton 4004 - Irederode 4060-4068 Kodiak
MEDINA								3731 - 3823 556	4102 - 56
QUEENSTON								3907 - 3910	4270 - SG
TOTAL DEPTH	7280	8151	7355	7258	7173	7249	8160	3931	3034
DEEPEST FORMATION REACHED	Oriskany	Helderberg	Oriskany	Oriskany	Onondaga	Oriskany	Helderberg	Queenston	Saling
RESULT	928 Mcf gas natural RP 3200 psi 24 hrs	6 Mcf gas, AF RP 3200 psi 40 days Abandoned	4470 Mcf gas and SW, AF RP 2203 psi 44 hrs	2115 Mcf gas AF RP 2232 psi 72 hrs	Dry Abandoned	Gas 7177-7249 1185 Mcf gas AF RP 2010 psi 24 hrs 50 of about 2800	Dry Abandoned	Small show of gas Abandoned	2500 Mcf gas blew out Salt water AF Abandoned





SUMMARIZED RECORDS OF DEEP WELLS (continued)

COUNTY	Crowford	Crowford	Crowford	Crowford	Crowford	Crowford	Crowford	Crowford	Crowford	Crowford	Erie	Erie
MAP NUMBER	41	42	43	44	45	46	47	48	49	50		
NAME OF WELL	Non Sims 1	C H Tyler 2B	Gerald L Walton (on Johnson farm)	W D Worden 1	C A Berkhimer 1	Walter E Hart 1	R A Lampman 1	Page 1	Vanco 1	J Harrington 1		
OPERATOR	Burnham Gas Co	Benedum Trees Co	The Sylvania Corp 385	Nicholas Sevich	Lake Shore Pipe Line Co	Lake Shore Pipe Line Co	Lake Shore Pipe Line Co	Benedum Trees Co	Redfern and Hurd	Pa Gas Co No 1598		
TOWNSHIP	Spring	Conneaut	Spring	Spring	Conneaut	Conneaut	Conneaut	Summerhill	Washington	Conneaut		
QUADRANGLE	Girard 53	Girard 49	Girard 52	Girard 51	Linesville 18	Linesville 16	Linesville 15	Linesville 17	Cambridge Springs, IL	Girard 61		
LATITUDE	10,600 ft. N 41° 45'	1800 ft. N 41° 45'	8700 ft. N 41° 45'	10,800 ft. N 41° 45'	5600 ft. S 41° 45'	8800 ft. S 41° 45'	10,500 ft. N 41° 45'	1500 ft. S 41° 45'	12,200 ft. S 41° 55'	9450 ft. S 41° 55'		
LONGITUDE	11,100 ft. W 80° 20'	3800 ft. W 80° 20'	11,500 ft. W 80° 20'	11,500 ft. W 80° 20'	3250 ft. W 80° 25'	9100 ft. E 80° 30'	300 ft. E 80° 25'	3800 ft. W 80° 20'	4500 ft. W 80° 10'	5250 ft. E. 80° 30'		
DATE COMPLETED	9 - 21 - 61	7 - 28 - 61	9 - 15 - 61	8 - 19 - 61	12 - 1 - 61	9 - 22 - 61	8 - 18 - 61	9 - 22 - 61	10 - 1 - 61	12 - 31 - 61		
ELEVATION	980 DF	1138 HB	955 DF	922 RT	1191 HB	1126 HB	1178 RT	1017 DF	1473 DF	921 TC		
TULLY	2265 - 2283	2265 - 2283	2232 -	2189 - 2401	2498 -	2257 - 2266	2394 - 2404	2228 - 2263	2460 - 2523			
ONONDAGA	2238 - 2450	2423 -	2232 -	2189 - 2401	2498 -	2407 -	2544 -	2396 -	2666 -	1876 -		
ORISKANY	2450 - 2455 SG, SSW	2626 - SG, SSW	2435 - 2443 SW of 2437	2401 -	2702 - 2710 SG, SW	2619 - 2625 SW of 2625	2750 - 2754 SW of 2752	2592 - 2600 SW of 2600	2928 - 2934 SG of 2933	2161 - 2167		
HELDERBERG	2455 -											
BASS ISLAND		2634 -										
SALINA		2707 - 3335	2510 - 3121									
GUELPH-LOCKPORT	Black water of 3260	3335 -	3121 - 3392	Black water of 3227	3424 - 3697	3343 - 3616	3509 - SG, SW of 3672	3307 - 3579	2999 - 3631	2250 - 2747		
CLINTON												
IRONDEQUOIT	3475 -	3576 - 3670 - 3683	3392 - 3497 3460 - 3470	3418 -	3697 - 3804 3764 - 3775	3616 - 3721 3684 - 3694	3780 - 3890 3850 - 3859	3579 - 3648 - 3658	3798 - 3804 3870 - 3880	3034 - 3134 3100 - 3112		
MEDINA	RED MEDINA (GRIMSBY)	3706 - 3794 Gas of 3774	3497 - 3586 Gas of 3549	3449 - Gas of 3605	3804 - 3890 Gas of 3856	3721 - 3810 500 ft. 3799 SG of 3795	3890 - 3984 SG	3687 - 3776 SG, SO	3904 - 3991 SG of 3944	3134 - 3218 Gas of 3198		
MEDINA	WHITE MEDINA (WHIRLPOOL)		3650 - 3678		3963 - 3983	3881 - 3902	4051 - 4072	3860 - 3866	4062 -	3288 - 3298		
QUEENSTON			3678 -		3983 -	3902 -	4072 -	3866 -	4077 -	3298 -		
TOTAL DEPTH	3550	3828	3679	3526	4012	3916	4075	3911	4097	3305		
DEEPEST FORMATION REACHED	Medina	Medina	Queenston	Medina	Queenston	Queenston	Queenston	Queenston	Queenston	Queenston		
RESULT	9184 Mcf gas natural RP 1140 psi	2500 Mcf gas AF RP 1000 psi	446 Mcf gas AF RP 1025 psi 48 hrs	3500 Mcf gas AF RP 7175 psi	521 Mcf gas 1 1/2 bbls oil, AF RP 1160 psi 70 hrs	100 Mcf gas 4 bbls oil, AF RP 960 psi 72 hrs Shut in	Show of gas Abandoned RP 800 psi Shut in	101 Mcf gas 15 bbls oil, AF RP 800 psi Shut in	Show of gas Shut in	56 Mcf gas AF RP 450 psi 40 hrs		





SUMMARIZED RECORDS OF DEEP WELLS (continued)

COUNTY	Fayette	Fayette	Fayette	Fayette	Greene	Indiana	Jefferson	Jefferson	Lycoming	Lycoming
MAP NUMBER	61	62	63	64	65	66	67	68	69	70
NAME OF WELL	MR Morrison Snee & Eberly Peoples Nat Gas Co	G.G. Gault Snee & Eberly Peoples Nat Gas Co	Lee Smith Snee & Eberly Peoples Nat Gas Co	Melvin Spruelli Snee & Eberly	Geo W. Gordon John Fox et al	J.H. Ralston Delta Drilling Co., et al	Heien G Rhines NYSNG Corp N-807	Burl Walls NYSNG Corp N-814	Pa Game Lands Tract 75-A, 1	Wm P Day Felmont Oil Corp F-130
OPERATOR	Snee & Eberly Peoples Nat Gas Co	Snee & Eberly Peoples Nat Gas Co	Snee & Eberly Peoples Nat Gas Co	Peoples Nat Gas Co Snee & Eberly	John Fox et al	Delta Drilling Co., et al	NYSNG Corp N-807	NYSNG Corp N-814	Pa Game Lands Tract 75-A, 1	Felmont Oil Corp F-130
TOWNSHIP	Stewart	Lower-Tyrone	Wharton	Stewart	Franklin	Cherry Hill	Winslow	Winslow	Brown	Pine
QUADRANGLE	Cenfluene 10	Connellsville 4	Uniontown 36	Uniontown 37	Waynesburg 2	Indiana 10	Du Bois 30	Du Bois 32	Antrim 14	Waterville 4
LATITUDE	8700 ft N 39° 50'	1800 ft N 40° 05'	18500 ft S 39° 50'	14600 ft S 39° 55'	9950 ft N 39° 50'	11,700 ft N 40° 35'	13,150 ft S 41° 05'	2000 ft S 41° 05'	9100 ft N 41° 30'	1750 ft N 41° 25'
LONGITUDE	4050 ft W 79° 25'	7700 ft W 79° 40'	3500 ft W 79° 40'	6500 ft E 79° 35'	5500 ft E 80° 10'	2800 ft E 79° 05'	2550 ft W 78° 50'	6400 ft E 78° 50'	11,200 ft W 77° 20'	1500 ft W 77° 15'
DATE COMPLETED	2 - 6 - 61	11 - 10 - 61	10 - 31 - 61	10 - 13 - 61	4 - 29 - 61	1 - 17 - 61	4 - 22 - 61	5 - 24 - 61	3 - 3 - 61	4 - 26 - 61
ELEVATION	1434 KB	1439 DF	1835 HB	2353 KB	1405 RT	1714 HB	1439 DF	1550 DF	1579 RT	1799 RT
TULLY	Hamilton, 5813- 6362- 6380- Gas at 6298	7158 - 7612 - 7626 -	6707 - 6805 7205 - 7225 -	7065 - 7590 - 7612 - Gas at 7640	7660 - 7720 7978 -	7174 7825 - 7838 -	6618 - 7186 - 7203 -	6773 - 7370 - 7381 -	5678 - 5794 6768 - 6818	6594 - 6754 7768 -
ONONDAGA										
ORISKANY	6534 - 6616 Gas		7375 -	7760 - 7848 Gas at 7165	8224 -	7955 - 7970	7260 - 7290 SG & SW	7448 - SW	6818 - 6853	7836 - 7890 SG, 7860-70
HELDERBERG	6616 -		7460 -	7848 -	8280 -	7970 -	7290 -		6853 -	7890 -
SALINA			7758 -		Keyser, 8532-					
GUELPH - LOCKPORT										
MEDINA										
QUEENSTON										
TOTAL DEPTH	6785	7801	8026	7964	8659	8017	7298	7458	6865	7990
DEEPEST FORMATION REACHED	Holderberg	Onondaga	Salina	Holderberg	Keyser	Holderberg	Holderberg	Oriskany	Holderberg	Holderberg
RESULT	3130 Mcf gas from chert & Oriskany after acidizing at 3271 psi, 48 hrs	1200 Mcf gas and SW AF after acidizing from chert at 3773 psi, 48 hrs Shut in	20 Mcf gas after acidizing chert & Oriskany Abandoned	3110 Mcf gas AF at 3423 psi 10 days Discovery Well Spruelli Field	Dry in Oriskany Plugged back to Boyard sand Gas 3180 - 3195 169 Mcf	Dry in Oriskany PB to 3000 Gas 2810 - 2831 1675 Mcf AF at 1020 psi 5 days	Dry in Oriskany Show of gas 8 bbls SW/hr Abandoned	Oriskany 12 gals SW per hr Abandoned	Dry Abandoned	8 Mcf gas & SW AF Abandoned

TABLE II  
SUMMARIZED RECORDS OF DEEP WELLS (continued)

COUNTY	Mc Kean	Mercer	Potter	Potter	Somersel	Somersel	Tioga	Warren	Warren
MAP NUMBER	71	72	73	74	75	76	77	78	79
NAME OF WELL	Mallory 2	Thomas Lihan 1	W H - 52	Pa. Tract 88 1	E & M Rugg 1	J Farkas, et al 1	Lutheran Camp Assoc 1	W Linder 1	F. Kopp 2
OPERATOR	Ritzos and McBride	Bert Fields	United Natural Gas Co	Felmont Oil Corp. F-134	M L & H Co No. 4660	Snee & Eberly Peoples Nat Gas Co	Snee & Eberly Peoples Nat Gas Co	MYSAIG Corp N-832	Blery et al
TOWNSHIP	Foster	West Salem	Wharton	Abbott	Lower Turkey Foot	Jenner	Jenner	Farmington	Limestone
QUADRANGLE	Bradford 4	Shenango 7	Conrad 35	Goleton 41	Confluence 11	Somersel 23	Somersel 21	Elkland 36	Tidoute 6
LATITUDE	1600 ft S 42° 00'	3500 ft N 41° 25'	1000 ft N 41° 30'	7100 ft N 41° 35'	17,700 ft S 39° 55'	3300 ft N 40° 10'	7000 ft N 40° 10'	3150 ft N 41° 55'	1300 ft N 41° 40'
LONGITUDE	11,400 ft W 78° 40'	7650 ft W 80° 25'	2750 ft E 78° 00'	7000 ft W 77° 40'	2900 ft E 79° 25'	10,000 ft W 79° 05'	5900 ft W 79° 05'	2200 ft W 77° 20'	10,900 ft W 79° 20'
DATE COMPLETED	5 - 27 - 61	10 - 26 - 61	9 - 13 - 61	5 - 29 - 61	10 - 23 - 61	7 - 21 - 61	3 - 5 - 61	12 - 20 - 61	5 - 12 - 61
ELEVATION	2074 G	1160 RT	1999 KB	2257 DF	2550 KB	2470 KB	2290 KB	1918 G	1602 DF
TULLY	3992 -	2930 - 2938	5405 - 5478	6406 - 6480	Hamilton, 7527 -	Hamilton, 7168 -	7352 -	4080 -	3993 -
ONONDAGA	4334 -	3070 -	6100 -	7259 -	8070 -	7902 -	8315 -	4945 -	4295 -
LIMESTONE					8089 - Gas	7922 - Gas	8334 -		
CHERT					8232 - 8330	8053 - Gas	8459 - SG of 8468	4954 - 4990	4371 - 4384
ORISKANY	4409 - Gas at 4410	3284 - 3288 SW of 3284	6115 -	7289 - 7290	8330 -			4990 -	4384 -
HELDERBERG		SW of 3301		7290 -					
SALINA		3400 -							4648 -
GUELPH - LOCKPORT		Lockport 4173 - Clinton 4463 -							Salt 4732 -
MEDINA		4586 -							5364 - Black water at 5450
RED MEDINA (GRIMSBY)									5650 - Gas, 5732 - 49
WHITE MEDINA (WHIRLPOOL)		4773 - 4788							5860 - Gas, 5926 - 38
QUEENSTON		4788 -							6028 - 6031
TOTAL DEPTH	4417	4792	6163	7326	8368	8133	8591	5003	6031 -
DEEPEST FORMATION REACHED	Oriskany	Queenston	Helderberg	Helderberg	Helderberg	Oriskany	Oriskany	Helderberg	Medino
RESULT	3000 Mcf gas after shot RP 1866 psi 47 hrs	Show of gas Abandoned	Drilled for gas storage	Dry Abandoned	1443 Mcf gas AF RP 3230 psi 48 hrs	7450 Mcf gas AF RP 3029 psi 6 days	268 Mcf gas AF RP 2090 psi 84 hrs Shut in	Dry Abandoned	170 Mcf gas AF RP 1235 psi 69 hrs
									250 Mcf gas AF RP 950 psi 3 hrs Discovery Well Camp Run Field

TABLE II  
SHEET 9

SUMMARIZED RECORDS OF DEEP WELLS (continued)									
COUNTY	Washington	Washington	Washington	Westmoreland	Westmoreland	Westmoreland	York		
MAP NUMBER	81	82	83	84	85	86	87		
NAME OF WELL	Aaron Conner 1	Samuel Cooper 2	Adolph Allison 1	A E Bailey 1	B G Clarke 1	Pa Tract 98 1	Harry Leib 1		
OPERATOR	John T. Galey Gulf Oil Co	John T. Galey	James Drilling Co	Peoples Nat Gas Co Snee & Eberly	Peoples Nat Gas Co	Phillips Petroleum Co	Danelson Co		
TOWNSHIP	W Bethlehem	Amwell	Robinson	S Huntington	Cook	Cook	Dover		
QUADRANGLE	Amity 1	Amity 2	Burgellstown 6	Connellsville 5	Somerset 22	Somerset 24	Hanover 1		
LATITUDE	5300 ft N 40° 05'	10,900 ft N 40° 05'	650 ft N 40° 25'	8500 ft S 40° 10'	12,000 ft N 40° 05'	13,500 ft N 40° 05'	10,450 ft S 40° 00'		
LONGITUDE	6550 ft E 80° 10'	1200 ft E 80° 10'	1600 ft E 80° 20'	2500 ft W 79° 40'	6100 ft W 79° 10'	5000 ft W 79° 10'	9500 ft W 76° 50'		
DATE COMPLETED	1 - 20 - 61	9 - 6 - 61	9 - 26 - 61	12 - 26 - 61	3 - 15 - 61	8 - 21 - 61	4 - 25 - 61		
ELEVATION	1242 ft B	1148 ft B	1168 ft B	1272 ft B	2677 ft G	2693 ft B	500 ft G		
TULLY	7160 - 7250	7102 - 7130	5685 - 5765	6860 -	Hamilton, 7595 -	Hamilton, 7581 -			
ONONDAGA	LIMESTONE	7500 -	7438 -	7310 -	8310 -	8336 -			
	CHERT	656 at 7505, 7575, 8 7620	SG, 7451 - 7455 7470 - 7476	7329 -	8335 -	8361 -			
ORISKANY		7743 - 7803	7682 - 7737	7508 -	Gas at 8365, 8371	8518 -			
			SG at 7703-7707	Gas		Gas			
HELDERBERG	7803 -	7737 - 7960	6204 - 6382	7594 -					
SALINA	8026 -	7960 -	6382 -						
	SG at 8042	SG at 7984 - 87 7989 - 94							
GUELPH - LOCKPORT									
MEDINA	RED MEDINA (GRIMSBY)								
	WHITE MEDINA (WHIRLPOOL)								
QUEENSTON									
TOTAL DEPTH	8125	8135	6506	8005	8435	8580	8630		
DEEPEST FORMATION REACHED	Salina	Salina	Salina	Salina	Onondaga	Helderberg	Chickies Quartzite		
RESULT		14 Mcf gas after acidizing	1000 Mcf gas AF RP 1925 psi 3 days	2700 Mcf gas AF RP 3950 psi 4 days	6500 Mcf gas AF RP 3309 psi 96 hrs	440 Mcf gas and SW AF RP 2690 psi 36 hrs	Dry Abandoned		
		RP 200 psi 60 hrs Abandoned	Discovery Well Glyde Pool	Discovery Well Bailey Pool	Discovery Well Clarke Pool				

TABLE 12. Deep Well Samples Collected During 1961  
(Supplement to Information Circular No. 16 and Progress Reports 157 & 158)

COUNTY Quadrangle & Number	Operator	Farm Name	Total Depth	Year Compl.	Sampled Interval	Deepest Formation Sampled
ALLEGHENY Greensburg 2	Albert Starr	Houston-Starr #1	7,904	61	5,310-7,865	Helderberg
BEDFORD Ebensburg 3	Phillips Petroleum	Pa. Tract 26B #1	6,984	61	6,830-6,982	Helderberg
BLAIR Ebensburg 1	Phillips Petroleum	Pa. Tract 26A #1	6,964	61	50-6,960	Helderberg
CAMBRIA Johnstown 1	Chas. Grabiak	Piney Run Mining Co. #1	8,455	61	40-8,450	Upper Devonian
CAMERON Benezette 276	N. Y. State Nat. Gas	A. Pardee Est. #3	6,804	61	6,400-6,804	Oriskany
CLEARFIELD Clearfield 45	N. Y. State Nat. Gas	Clearfield Trust Co. #1	7,836	61	Samples not yet cut	
Dubois 22	N. Y. State Nat. Gas	H. S. Reasinger #1	7,314	60	6,600-7,314	Helderberg
Dubois 27	Devonian Gas & Oil	Jos. Jusnukis #1	7,341	61	7,210-7,340	Oriskany
Houtzdale 1	N. Y. State Nat. Gas.	Mid-Penn Coal Co. #1	8,140	61	29-8,140	Helderberg
Penfield 74	Devonian Gas & Oil & Fair- man	Emery Miller #1	7,343	57	7,265-7,327	Oriskany
Penfield 95	Devonian G & O	Scholl #2	7,406	57	6,300-7,406	Onondaga
Penfield 246	Felmont Oil Corp.	Deemer-Green Glen #4	7,244	60	(1,300-1,800) (6,300-7,242)	Oriskany
Penfield 247	Felmont Oil Corp.	Deemer-Green Glen #3	7,305	60	(0 -1,260) (6,300-7,305)	Oriskany
Penfield 260	Felmont Oil Corp.	Deemer-Green Glen #8	7,349	60	( 145-1,300) (6,500-7,348)	Oriskany
Penfield 262	Felmont Oil Corp.	Deemer-Green Glen #10	7,201	60	( 45-1,320) (6,500-7,108)	Onondaga
Penfield 265	Felmont Oil Corp.	Deemer-Green Glen #11	7,336	60	100-1,180	Upper Devonian
Penfield 271	N. Y. State Nat. Gas	Walter Dunlap #1	7,270	60	6,500-7,279	Helderberg
Penfield 272	N. Y. State Nat. Gas	Dubois Nat. Bank (H. E. Ginter) #1	7,344	60	6,800-7,267	Onondaga
Penfield 276	N. Y. State Nat. Gas	E. B. Shettler #1	7,249	61	(2,500-3,500) (6,000-7,175)	Onondaga
CLINTON Snow Shoe 5	Felmont Oil Corp.	Pa. Tract 91 #1	8,160	61	50-8,160	Helderberg
CRAWFORD Cambridge Springs 8	Atlas & Sun Oil Co.	Tony Gosick #1	3,034	61	Samples not yet cut	
Cambridge Springs 9	Atlas & Sun Oil Co.	Revak #1	3,959	61	Samples not yet cut	
Corry 26	Albaugh et al	Halfast #1	5,340	61	2,487-5,322	Queenston

TABLE 12. Deep Well Samples Collected During 1961 (Continued)  
(Supplement to Information Circular No. 16 and Progress Reports 157 & 158)

COUNTY Quadrangle & Number	Operator	Farm Name	Total Depth	Year Compl.	Sampled Interval	Deepest Formation Sampled
CRAWFORD (continued)						
Girard 26	Felmont Oil Corp.	Harry Wigand #1	3,853	58	2,277-3,860	Queenston
Girard 46	S. McClusky	Brooky #1	3,792	61	2,219-3,780	Medina
ERIE						
Cambridge Springs 11	Redfern & Hurd	Vanco #1	4,103	61	2,470-4,103	Queenston
Erie 103	Stephens et al	C. Innes #1	2,517	58	2,270-2,485	Oriskany
Union City 5	Apache Oil Co.	Lenart #1	4,017	61	2,803-4,017	Queenston
FAYETTE						
Connellsville 4	Snee & Eberly	G. G. Gault #1	7,803	61	0-7,801	Onondaga
Uniontown 35	Snee & Eberly & Peoples Nat. Gas	Earl Rahl #1	8,022	60	3,700-8,000	Onondaga
GREENE						
Waynesburg 2	J. A. Fox et al	Geo. W. Gordon #1	8,659	61	50-8,650	Keyser
INDIANA						
Indiana 10	Delta Drlg. Co.	J. H. Ralston #1 D	8,017	61	30-8,015	Helderberg
JEFFERSON						
Dubois 21	Sam Jack Drlg. Co.	J. Bobal #1	7,110	60	5,150-7,102	Helderberg
LYCOMING						
Antrim 14	Felmont Oil Corp.	Pa. Game Lands Tract 75 A #1	6,865	61	50-6,896 ?	Oriskany
Waterville 4	Felmont Oil Corp.	Wm. P. Day #1	7,990	61	10-7,990	Helderberg
POTTER						
Galeton 41	Felmont Oil Corp.	Pa. Tract 88 #1	7,326	61	5,900-7,325	Helderberg
SOMERSET						
Somerset 15	Felmont & Peoples	Leroy Wilt #1	8,560	60	( 0 - 945) (7,210-8,560)	Oriskany ?
Somerset 19	Felmont Oil Corp.	C. W. Friedline #1	8,586	60	7,100-8,578	Onondaga
TIOGA						
Antrim 13	J & J Enterprises	H. P. Jones #1	6,081	60	50-6,074	Helderberg
Galeton 17	James Drlg. Co.	Hubert #1	5,747	55	5,695-5,742	Oriskany
WARREN						
Tidioute 5	Paul Benedum	Wheeler-Dusenberry #1	6,038	61	5,938-5,958 (core)	Medina
WASHINGTON						
Amity 1	Gulf Oil & J. T. Galey	Aaron F. Conner #1	8,125	61	85-8,125	Keyser
Amity 2	John T. Galey	Samuel V. Cooper #2	8,135	61	Samples not yet cut	

